

Phase

Initial Written Assessment

Definition Procedure

Assessment Procedure

Report Phase

Implementation

P432 'Half Hourly Settlement for CT Advanced Metering Systems'

This Modification will amend the BSC requirements for Advanced Meters to align with the [Electricity Supply Standard Licence Conditions](#) and to require Half Hourly (HH) Settlement for all CT Meters by **October 2023**. [It will deliver Recommendation 3 by the CCDG as set out in its Consultation on the Transition Approach For Market Wide Half Hourly Settlement \(MHHS\)](#).



Elexon recommends P432 is progressed to the Assessment Procedure for an assessment by a Workgroup



Elexon does not consider it likely that P432 will impact the European Electricity Balancing Guideline (EBGL) Article 18 terms and conditions held within the BSC

This Modification is expected to impact:

- Suppliers
- SVA Meter Operator Agents (MOAs)
- Half Hourly Data Collectors (HHDCs)
- Non-Half Hourly Data Collectors (NHHDCs)
- Licensed Distribution System Operators (LDSOs)
- Generators

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Contact

Aylin Ocak

020 7380 4064

bsc.change@elexon.co.uk

aylin.ocak@elexon.co.uk



About This Document



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

- Have 5 mins? Read section 1
- Have 15 mins? Read sections 1, 4, 5 and 6
- Have 30 mins? Read all sections
- Have longer? Read all sections and the annexes and attachments

This document is an Initial Written Assessment (IWA), which Elexon will present to the Panel on 9 December 2021. The Panel will consider the recommendations and agree how to progress P432.

There are two parts to this document:

- This is the main document. It provides details of the Modification Proposal, an assessment of the potential impacts and a recommendation of how the Modification should progress, including the Workgroup's proposed membership and Terms of Reference.
- Attachment A contains the P432 Proposal Form.

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1 Summary

What is the issue?

Market-wide Half-Hourly Settlement (MHHS) requires that all Metering System Identifiers (MSIDs) are settled on a Half Hourly (HH) basis. The Code Change and Development Group (CCDG) has recommended moving CT Advanced Meters to settle HH by October 2023. If this recommendation is not implemented the risk that there will be insufficient time for Customers, Suppliers and their Agents to address issues that may arise will be increased, especially against the backdrop of the larger MHHS migration activities that will be needed for smart Meters.

This Modification seeks to address the following issues related to CT Meters:

- Inconsistent definitions of Advanced meter in the BSC versus Standard License Conditions ([SLC](#));
- Risk of not meeting MHHS Transition Timetable; and
- Being unable to keep track of Profile Class (PC) 5-8 Meters.

What is the proposed solution?

This Modification seeks to align the BSC definition of an Advanced Meter with that in the SLC and to set explicit HH Settlement obligations for CT Advanced Meters ahead of the migration to MHHS. Existing CT Advanced Meters settling NHH are expected to migrate using the Change of Measurement Class (CoMC) process to settle HH by October 2023 and all new connections for CT Advanced Meters will be expected to settle HH from October 2022.

Impacts and costs

This Modification is expected to impact Suppliers, MOAs, NHHDCs, HHDCs and Distributors. They may be required to amend systems and processes and costs are expected to be low and subject to further assessment and consultation.

This Modification will impact [BSC Section S 'Supplier Volume Allocation'](#), [BSC Section X – Annex X-1 'General Glossary'](#) and [BSCP516 'Allocation of Profile Classes and SSC's for Non Half Hourly SVA Metering Systems Registered in SMRS'](#). The Redlining for the documents will be taken to the first workgroup on W/C 17 January 2022.

No BSC System changes are expected. The central implementation costs are therefore expected to be low. On-going costs will be determined during the Assessment Procedure and will largely depend on the role of Elexon and the Performance Assurance Board (PAB) for the migration activities.

Implementation

The CCDG has recommended this Modification to be implemented as soon as possible to give Suppliers the maximum possible time to ensure that all CT Advanced Meters are

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settled HH by October 2023. We propose this Modification is **implemented via a special release, five Working Days (WD) after the final Authority decision is made.**

Recommendation

We recommend that the Panel agree to progress this Modification to the Assessment Procedure for consideration by a Workgroup.

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2 Why Change?

What is the issue?

As a result of [P272¹](#), [P300²](#) and [P322³](#) the BSC introduced the definition of an Advanced Meter and required former PC 5-8 Metering Systems to be settled on a HH basis. At the time, this definition was deliberately constrained to only condition 12.18 of the SLC. The SLC requires Advanced Meters to be fitted to all CT Meters by the end of 2021. This misalignment is no longer necessary or appropriate, rather it is inconsistent.

Further, the BSC definition of Advanced Meters does not require these to be settled on a HH basis. There is therefore an opportunity to maximise the benefits of these HH capable Meters by requiring them to be settled HH. Moreover, the risk of not meeting the [MHHS Transition Timetable](#) can be reduced by bringing forward the migration of CT Advanced Meters to HH Settlement.

This Modification seeks to align the BSC and SLC requirements on the basis that using actual HH data will always lead to more accurate Settlement than using a NHH profile. Currently, there are several thousand sites where a Meter capable of recording HH data has been fitted under an SLC other than SLC 12.18 but there is no automatic obligation under the BSC to use that data in Settlement.

The PC 5-8 requirement follows from the SLC 12.18 requirements but has the additional challenge that over time the knowledge of whether a Metering System was formerly NHH PC 5-8 is lost. This makes the requirement difficult to comply with (or enforce) following repeated change of Supplier events. There is no robust method of knowing which Metering Systems were formerly PC 5-8, making enforcement of the BSC obligations difficult and resource intensive. As result, former PC 5-8 Metering Systems could revert to NHH trading with the associated detrimental impact on Settlement accuracy.

CCDG recommendation to obligate early HH settlement in the Advanced segment

The CCDG believes that a key enabler of an effective transition for the Advanced segment to the MHHS Target Operating Model (TOM) will be to align the BSC definition of an Advanced Meter with that in the Electricity Supply Licence and to set explicit HH Settlement obligations for CT Advanced Meters ahead of the migration to MHHS.

This will result in an estimated 50,000 CT Meters accounting for approximately 800 – 1,500 GWh⁴ per year [1-2% of the total SVA import volume] moving to HH Settlement via the existing CoMC process, such that all CT metered MSIDs will be settled HH before migration for the Advanced segment to MHHS starts in **October 2024**. In addition, any new CT connections beyond **October 2022** should be HH settled to ensure that subsequent CoMC activity is not required.

This approach will help spread work, which would otherwise have to be carried out alongside MHHS migration over a longer period, making it more manageable and reducing the risk of missed MHHS migration deadlines. This will maximise the time to resolve

¹ P272 'Mandatory Half Hourly Settlement for Profile Classes 5-8'

² P300 'Introduction of new Measurement Classes to support Half Hourly DCUSA Tariff Changes (DCP179)'

³ P322 'Revised Implementation Arrangements for Mandatory Half Hourly Settlement for Profile Classes 5-8'

⁴ Based on [Gross Supplier Market Share Data reports](#).



What is a Profile Class?

A Profile Class is a classification of profiles which represents an exclusive category of customers whose Consumption can be reasonably approximated to a common profile for Settlement purposes. There are eight generic Profile Classes, chosen as they represent large populations of similar customers. Profile Classes 1 and 2 are for domestic premises and Profile Classes 3 to 8 are for non-domestic premises.



SLC 12.18

If paragraph 12.17 applies, the Electricity Meter installed at the relevant premises must be an Advanced Meter.

Paragraph 12.17: This paragraph has effect on and after 6 April 2009 and applies where the licensee installs or arranges for the installation of an Electricity Meter at Non-Domestic Premises where the metering point falls within profile class 5, 6, 7 or 8 as defined in the Balancing and Settlement Code (for this condition only, "relevant premises").

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MHHS Transition Timetable.

Ofgem's decision is that the transition to MHHS should take place over 4 years and 6 months, with the transition beginning on the publication of its Full Business Case in April 2021 and ending in October 2025.

'problem' sites where issues would otherwise delay migration. It will be significantly less risky to migrate MSIDs that are already settling HH where the Meter has working communications to MHHS, rather than try to switch from NHH at the point of migration.

Background

CCDG Recommendations

The Ofgem Significant Code Review (SCR) considering [Settlement Reform](#), also known as MHHS was launched in July 2017. Under the SCR, the CCDG was convened to develop the MHHS TOM recommended by the Design Working Group (DWG).

The CCDG has [recommended](#) that a number of enabling changes are progressed before the full MHHS Design is baselined in 2022. The CCDG believed these changes would need to be raised before the end of 2021 to allow the required lead time to implement and comply.

They are to give effect to the CCDG's recommendations 1, 3 and 8.

- **Recommendation 1** will require changes to the BSC and REC to introduce new SMRS registration data items and supporting processes to be implemented between November 2022 and February 2023.

A BSC Change Proposal is expected to be raised in Q1 2022 to progress Recommendation 1.

- **Recommendation 3** will require the introduction as soon as possible of an obligation on Suppliers to ensure that all MSIDs with NHH settled CT Advanced Meters are moved to settle HH via the CoMC process by October 2023.

The CCDG initially considered whether there may need to be a consequential change under the REC and CUSC, however this is no longer the case because the Modification doesn't have a direct impact on the REC, but a complimentary REC Change has been raised ([R0015 "Remote communication obligations for Advanced Meters"](#)). Also due to the timing of the CoMC activity a CUSC Change is no longer required.

This Modification is in support of Recommendation 3.

- **Recommendation 8** will require the introduction as soon as possible of an obligation on Suppliers to ensure that all Unmetered MSIDs are settled HH by October 2024. This will require changes to the BSC. The CCDG initially considered whether there may need to be a consequential change under the CUSC, however this is no longer the case due to the timing of the CoMC activity.

Following the raising of this Modification Proposal, a separate Modification is expected to be raised to progress Recommendation 8. We plan to progress the two Modifications together for efficiency.

The CCDG sought direction from Ofgem on how to progress their recommendations. [In response](#), Ofgem requested that these enabling changes are progressed through the existing code governance framework, with oversight by the MHHS Programme. The Programme and Ofgem fully endorse the progression of this Modification and the early migration of CT Meters to HH settlement.

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P272 'Mandatory Half Hourly Settlement for Profile Classes 5-8'

P272 mandated Half Hourly Settlement for all SVA Metering Systems within PC 5-8, in order to enable a Supplier's volume allocation to accurately reflect their customers' consumption and avoid the smearing effects of profiling NHH meter data. P272 was implemented on 1 April 2017.

P300 'Introduction of new Measurement Classes to support Half Hourly DCUSA Tariff Changes (DCP179)'

P300 introduced new Measurement Classes for aggregated Half Hourly-settled customers (for current transformer and whole current metered domestic; and whole current non-domestic markets). P300 was implemented on 5 November 2015.

P322 'Revised Implementation Arrangements for Mandatory Half Hourly Settlement for Profile Classes 5-8'

P322 proposed new arrangements to migrate sites, classed as PC 5-8 with Advanced Meters installed, to HH Settlement under the P272 obligations. P322 had the following features:

- Required start and end dates to facilitate a phased approach to implementation;
- Performance Monitoring, most likely through the existing Performance Assurance Framework; and
- An implementation approach, which considers approved Modification P272 and possible amendment to the P272 Implementation Date by the Authority.

P322 was implemented on 3 August 2015.

MHHS Target Operating Model (TOM)

The ELEXON-led Design Working Group ([DWG](#)) has designed the TOM for 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 SCR on Electricity Settlement Reform.

The MHHS TOM is a set of services required to deliver Settlement Period (SP) level data (currently a Half Hour period) from a Meter to a central Settlement body, to enable the calculation of the amount of energy a Supplier's customers have consumed (or exported) in each SP for each Settlement Day. This calculation is then used in the Imbalance Settlement process which compares the Supplier's contracted purchases of energy to the amounts deemed to have been consumed (sales) by each of the Supplier's customers (and recognises any amounts of energy contracted by National Grid under the Balancing Mechanism).

The DWG's TOM was presented in full detail in its [Preferred TOM report for Stage 2 of the SCR](#).

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Code Change and Development Group (CCDG)

The [CCDG](#) is a working group that developed the detailed design areas of the DWG's TOM, following the initial works done by the DWG. The group also further developed the transition approach, also accounting for run-off of the existing NHH arrangements. CCDG was initially responsible for the code changes (including subsidiary documents), however this is now the responsibility of the MHHS Programme's [Cross Code Advisory Group](#).

Advanced Meters, CT and Whole Current

An Advanced Meter is defined as a Meter which, either on its own or with an ancillary device, stores measured electricity consumption data for multiple time periods; and provides remote access to such data by the licensee.

A CT Meter is a type of Meter that is installed on any connection with a load greater than 100 Amps. A CT Meter measures a fraction of the current passing through the connection and a multiplier is applied to this reading to reflect the actual current.

A Whole Current Meter is a smaller Meter fed by either a single phase or three phase supply cable. A whole current Meter is where the electricity supply passes through the Meter itself.

Desired outcomes

The CCDG has made the following recommendations in respect of Advanced Meters, which this Modification seeks to implement:

- For CT Advanced Meters settling NHH, CoMC process carried out from March 2023 to October 2023;
- New CT connections beyond October 2022 should be HH settled to ensure that subsequent CoMC activity is not required; and
- Where possible, whole current Advanced Meters settling NHH are moved to settle HH via CoMC by October 2024. This will simplify the migration process but should not be mandated.

The Modification will place an obligation on Suppliers to settle all CT Metering Systems on a HH basis by **October 2023**. Monitoring of compliance by the PAB and the drafting of this obligation should take account of the fact that the relevant SLC clauses have the condition 'where reasonably practical'.

Although this Modification will not mandate the HH settlement of whole current CT Meters, the Workgroup is invited to consider what barriers currently exist that prevent Suppliers from moving these to settle HH.

Proposed solution

The definition of the Advanced Meter in the BSC differs from that in the SLC. This Modification seeks to align the definitions to expand the existing requirements to settle PC 5-8 sites HH to include CT Metering Systems to ensure clarity for all stakeholders and customers.

The current definition of Advanced Meter in Annex X-1 of the BSC was constrained by the scope of P272 to refer only to SLC 12.18 as follows:

“Advanced Meter”: means Metering Equipment installed in accordance with the obligation set out in condition 12.18 of the Standard Conditions of each Supply Licence;

This made sense at the time of P272 because that Modification was focused on MSIDs in PC 5-8, but this prevented the future expansion of the HH Settlement obligation to include Advanced Meters installed under other SLCs where these Meters are capable of providing HH data into Settlement.

It is proposed to remove this limitation so that the BSC definition includes Advanced Meters installed as a result of any of the SLC obligations, notably 12.17 to 12.29, and condition 39.5 to 39.22. In practice extending the definition will include within scope an estimated additional 50,000 CT Metering Systems⁵. The exact wording can be subject to legal advice and Workgroup scrutiny.

As the existing SLC requirements require all CT Metering Systems to have Advanced Meters fitted, it follows that there is a similar rationale for these to be settled on an HH basis. Extending the BSC obligation to all CT Metering Systems would include all ‘over 100kW’ sites and any CT MSIDs in PC 5-8 remaining from P272 that are not yet settling HH. In addition, any new CT connections beyond October 2022 should be HH settled to ensure that subsequent CoMC activity is not required.

Consideration should be given to monitoring the compliance of Suppliers with these obligations by the PAB, and this would be simplified by replacing previous references to PC 5-8 or 100 kW with a single reference to all CT metering systems. With that in mind, this Modification may facilitate removal of redundant references to the ‘P272 go live date’ and associated text in Section S to ensure the BSC remains clear and fit for purpose. The Workgroup should also consider what reporting may be required to support the assurance of this obligation and any associated data cleanse activity.

Impacts on Distribution Use of System (DUoS) charging and cost recovery have been considered as the c.50,000 CT metering systems will move into site specific DUoS charging upon a CoMC into Measurement Class “E”. As the excess capacity charging regime will be in effect in the DCUSA, customers need to set an agreed supply capacity via a site-specific connection agreement with their LDSO in advance of moving to HH Settlement, otherwise they will become liable for the penal excess capacity charge. This Modification aims to mitigate this by presenting Suppliers with the opportunity to use the winter 2022-23 season to obtain the customer maximum demand data so that customers are informed of the capacity levels they need to agree with their host LDSO, as such a DCUSA Modification is also not necessary.

⁵ Based on LDSO provided data in 2018.

All CT Metering Systems to be settled HH by October 2023

The current BSC obligation requires HH Settlement of:

- all over 100kW Metering Systems; and
- formerly NHH PC 5-8 Metering Systems.

It is understood that the 100kW requirement is an arbitrary number included in the Electricity Act in 1989 to support the gradual opening of the electricity market to competition. As the whole market is now open to competition, the linkage between the 100kW threshold in the Act and the BSC should no longer be relevant, although it is still referred to in documents like the BSC Metering Codes of Practice (CoPs).

The over 100kW definition has always required some interpretation, including determinations by Ofgem. Currently a judgment is made whether a site is over/under 100kW determined in the BSC, triggered in accordance with [BSCP504](#) section 3.4.1.8 by the Supplier and NHHDC. A Supplier Charge (SP04) encourages compliance by reporting the number of qualifying NHH metering systems not settled HH (although [P429](#) 'Switching off Participant-Reported PARMS Serials' proposes to remove this).

Smart Meters are designed to be installed on whole current Metering Systems and their roll-out is subject to a separate requirement in SLC 39.1.

SLC 39.3 recognises CT Metering Systems as a valid exemption from this obligation and refers instead to SLC 12.27 which requires all CT sites, whether domestic or non-domestic, to have an Advanced Meter fitted by the end of 2021.

The SLC allows exceptions under condition 12.19 where a Supplier has taken "all reasonable steps". These conditions were introduced in 2009, allowing stakeholders over ten years notice to comply. Information from Distributors provided through the Distribution Charging Methodologies Development Group ([DCMDG](#)) indicates that about 50,000 CT Metering Systems are being settled NHH yet at the time of this Modification being raised should have an HH capable Advanced Meter already installed. It is likely that the pandemic has delayed the installation of Advanced Meters for some CT Metering.

The Association of Meter Operators (AMO) has produced guidance, [Advanced Metering for CT Metering Systems](#), on the issues surrounding the application of CT metering.

Benefits

This change is an enabling step that forms part of the move to MHHS. The [Ofgem full business case](#) set out the benefits of implementing MHHS. Ofgem estimates MHHS will save consumers about £300m per year, with anticipated £4bn-£5bn consumer savings in total over the period to 2040.

P272, P300 and P322 were implemented to ensure that where an Advanced Meter was fitted as a result of the SLC for a PC 5-8 site it was then used to provide HH data for Settlement. It was recognised by stakeholders that the use of HH data results in more accurate and consequently more equitable Settlement than the NHH profiling arrangements.

This Modification also supports the reforms to DUoS charging, as DUoS charges already differ between whole current and CT Metering Systems so ensuring that all CT Meters are settled on an HH basis will allow more accurate DUoS charging.

There should also be no environmental impacts resulting from this Proposed Modification, although the Ofgem SCR considering [Settlement Reform](#) identifies that use of accurate HH Settlement data ensures the correct cost allocation which in turn encourages energy use to be optimised.

This Modification will therefore result in more accurate and equitable Settlement, whilst reducing the MHHS delivery risks for relevant MHHS Participants.

Applicable BSC Objectives

It's the Proposer's view that this Modification better facilitates BSC Applicable Objectives (c) and (d).

Objective (c)

Larger consuming electricity sites have the largest impact on Settlement accuracy. CT Metering Systems have the capability to consume more energy than whole current metering systems, using the actual data available in the already installed Advanced Meter is a minimal additional cost. It enables a smooth transition to the MHHS TOM for Advanced Meters (subject to SCR progression). This Modification will promote effective competition in the generation and supply of electricity because the data will be more accurate and granular which will enable innovation and competition, in line with arguments in P272.

Objective (d)

Identification of "100kW metering systems" is not robust and is a legacy from the Electricity Act. Correct identification of previously NHH PC 5-8 Metering Systems is difficult and becomes impossible after successive Change of Supplier (CoS) events. Identification of CT vs. whole current Metering Systems is a clear physical differentiator visible at the site. Delineation by CT vs. whole current Metering Systems could allow future rationalisation of Measurement Classes and/or consolidation of the Metering CoPs. This Modification will therefore simplify and clarify the BSC arrangements and consequently better facilitates efficiency in the implementation and operation of the BSC.

Implementation approach

The CCDG has recommended this change to be implemented as soon as possible to ensure that all MSIDs with NHH settled CT Advanced Meters are moved to settle HH via the CoMC process by October 2023.

The Proposer agrees and we therefore recommend this Modification is **implemented via a special release, five WDs after Authority approval**. This will provide the maximum lead time to meet the migration timescales that will be set by this Modification.

It is recommended not to commence the BSC CoMC process until March 2023 because of the impact on network 'Use of System' charging outlined above in the solution section. The intention is to allow Suppliers an appropriate period of time to gather information to



What are the Applicable BSC Objectives?

(a) The efficient discharge by the Transmission Company of the obligations imposed upon it by the Transmission Licence

(b) The efficient, economic and co-ordinated operation of the National Electricity Transmission System

(c) Promoting effective competition in the generation and supply of electricity and (so far as consistent therewith) promoting such competition in the sale and purchase of electricity

(d) Promoting efficiency in the implementation of the balancing and settlement arrangements

(e) Compliance with the Electricity Regulation and any relevant legally binding decision of the European Commission and/or the Agency [for the Co-operation of Energy Regulators]

(f) Implementing and administering the arrangements for the operation of contracts for difference and arrangements that facilitate the operation of a capacity market pursuant to EMR legislation

(g) Compliance with the Transmission Losses Principle

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enable a smooth path for their CT metered customers ahead of the actual CoMC activity, such as obtaining Maximum Demand data from CT Meters so that customers can be informed of their capacity requirements ahead of setting up connection agreements prior to becoming HH settled.

4 Areas to Consider

In this section we highlight areas which we believe the Panel should consider when making its decision on how to progress this Modification Proposal, and which a Workgroup should consider as part of its assessment. We recommend that the areas below form the basis of a Workgroup's Terms of Reference, supplemented with any further areas specified by the Panel.

Interactions with P272 and CP1549

[CP1549 'Amendment of BSCP516 to clarify the criteria for Non-Domestic SVA Metering Systems'](#) seeks to clarify that it is possible to move a Non-Domestic customer with an Advanced Meter (CT or Whole Current) who was migrated from PC 5-8 to HH Settlement (as part of the P272 process) back to NHH Settlement if reclassified as PC 3-4.

There are MSIDs in NHH PC 5-8 still subject to the P272 obligation that have not been moved to HH. Those that are CTs will be covered by this Modification. However, it should be considered whether the P272 obligations should be kept and enforced for the Whole Current MSIDs in NHH PC 5-8 or allow those to be downgraded to PC 3-4 so that no MSIDs remain in NHH PC 5-8.

Areas to consider

The table below summarises the areas we believe a Modification Workgroup should consider as part of its assessment:

Areas to Consider
Should the references to the P272 implementation date in Section S 2.6.1A and 2.6.1B be removed, as the implementation date has now passed?
Should the BSC definition of Advanced Meters be extended from SLC 12.18 to conditions 12.17-12.29 and 39.5-39.22?
What interactions does the proposal have with existing P272 obligations and CP1549?
Assessment of the costs and benefits, where possible and needed.
Consider impacts on Supplier charges.
Consideration of the role of Elexon and the PAB in monitoring, reporting and managing the migration and new obligations.
What data cleanse obligations are required?
What barriers currently exist that prevent Suppliers from moving whole current CT Meters to settle HH?
How will P432 impact the BSC Settlement Risks?
What changes are needed to BSC documents, systems and processes to support P432 and what are the related costs and lead times? When will any required changes to subsidiary documents be developed and consulted on?
Are there any Alternative Modifications?
Should P432 be progressed as a Self-Governance Modification?
Does P432 better facilitate the Applicable BSC Objectives than the current baseline?

Areas to Consider

Does P432 impact the EBGL provisions held within the BSC, and if so, what is the impact on the EBGL Objectives?

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Next steps

This IWA will be presented to the BSC Panel at its meeting on 9 December 2021, where the Panel will decide how to progress the Modification Proposal. We recommend this Proposal progresses to the **Assessment Phase**, for a four-month assessment by a Workgroup and follow the timetable below.

Although this Proposal has been developed and discussed by the CCDG, there are a few areas that would still benefit from a targeted Workgroup assessment, as detailed in the proposed Terms of Reference above. Further, this Proposal is significant and material and therefore would not typically be considered suitable for going straight to the Report Phase.

Self-Governance

The Proposer and Elexon recommend that this Modification should not be considered suitable for Self-Governance and should be sent to the Authority for approval, as it will likely have a material impact on:

- Existing or future electricity consumers because it will require CT Advanced Meters are settled HH earlier than would otherwise be the case, which may result in different Supplier billing and charging to the customer.
- Competition in the generation, distribution, or supply of electricity or any commercial activities connected with the generation, distribution, or supply of electricity because the data will be more accurate and granular which will enable innovation and competition.

Workgroup membership and meeting approach

We propose that membership should be drawn from participants with experience and expertise in:

- CoMC processes;
- Settlement processes;
- Performance Assurance processes; and
- Metering processes.

We expect and will encourage participation from some CCDG Members and the MHHS Implementation Manager.

Meeting Approach

We are expecting an equivalent Modification Proposal to require NHH Unmetered Suppliers Metering Systems to settle HH to be raised imminently and brought to the January 2022 Panel meeting. We propose to have one set of Workgroup Members (so far as is possible) for both of these Modifications and to hold joint Workgroup meetings for efficiency and consistency across the two Modifications.

What is the Self-Governance Criteria?

A Modification that, if implemented:

(a) does not involve any amendments whether in whole or in part to the EBGL Article 18 terms and conditions; except to the extent required to correct an error in the EBGL Article 18 terms and conditions or as a result of a factual change, including but not limited to:

- (i) correcting minor typographical errors;
 - (ii) correcting formatting and consistency errors, such as paragraph numbering; or
 - (iii) updating out of date references to other documents or paragraphs;
- (b) is unlikely to have a material effect on:
- (i) existing or future electricity consumers; and
 - (ii) competition in the generation, distribution, or supply of electricity or any commercial activities connected with the generation, distribution, or supply of electricity; and
 - (iii) the operation of the national electricity transmission system; and
 - (iv) matters relating to sustainable development, safety or security of supply, or the management of market or network emergencies; and
 - (v) the Code's governance procedures or modification procedures; and

(b) is unlikely to discriminate between different classes of Parties.

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Timetable

Proposed Progression Timetable for P432	
Event	Date
Present Initial Written Assessment to Panel	9 December 2021
Workgroup Meeting 1	W/C 17 January 2022
Workgroup Meeting 2	W/C 7 February 2022
Assessment Procedure Consultation (15WDs)	28 February 2022 – 18 March 2022
Workgroup Meeting 3	W/C 28 March 2022
Present Assessment Report to Panel	14 April 2022
Report Phase Consultation (10 WDs)	19 April 2022 – 3 May 2022
Present Draft Modification Report to Panel	12 May 2022
Issue Final Modification Report to Authority	18 May 2022

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6 Likely Impacts and costs

Costs will be assessed during the Assessment Procedure. However, for those roles we believe will be impacted, we have indicated whether we believe the costs are likely to be high, medium or low based on the following categories:

- High: >£1 million
- Medium: £100-1000k
- Low: <£100k

Impact on BSC Parties and Party Agents		
Party/Party Agent	Potential Impact	Potential cost
Suppliers	The SLC already requires the installation and maintenance of Advanced Meters by the end of 2021 so any additional costs for HH Settlement are expected to be marginal. Suppliers may need to modify their billing arrangements for CT metered customers currently settled NHH. This in turn may alter the DUoS charges that Suppliers seek to recover from customers.	L
LDSOs	It is expected the changes to DUoS charging as directed by Ofgem in its Targeted Charging Review SCR will largely mitigate the impacts to DUoS charging from the Modification. And in any case, these impacts should result in more accurate DUoS billing. For that reason, the impacts on LDSOs has been highlighted but are expected to be minimal.	L
Generators	Generators will only be impacted where they own the equipment at the export sites.	L
SVA Meter Operators	In line with P272, existing NHH-only Agents will need to requalify for HH should they wish to continue to act as an Agent for sites with CT metering equipment installed. The increase in the number of HH Metering Systems is expected to impact MOAs, who may need to support the migration plans of Suppliers. MOAs will need to engage in Change of Measurement Class activities.	L
HHDCs	The increase in the number of HH Metering Systems is expected to impact HHDCs, who may need to support the migration plans of Suppliers. HHDCs will need to engage in Change of Measurement Class activities.	L

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Impact on BSC Parties and Party Agents		
Party/Party Agent	Potential Impact	Potential cost
NHHDCs	In line with P272, existing NHH-only Agents will need to requalify for HH should they wish to continue to act as an Agent. NHHDCs will need to engage in Change of Measurement Class activities.	L

Impact on the NETSO	
Potential Impact	Potential cost
None identified	None

Impact on BSCCo		
Area of Exelon	Potential Impact	Potential cost
Assurance	Monitoring and managing the migration plans.	M

Impact on BSC Settlement Risks
This proposal may impact BSC Settlement Risks and this will be considered during the Assessment Procedure.

Impact on BSC Systems and processes	
BSC System/Process	Potential Impact
None	All existing systems expected to be able to accommodate this small change in activity.

Impact on BSC Agent/service provider contractual arrangements	
BSC Agent/service provider contract	Potential Impact
None	None identified

Impact on Code	
Code Section	Potential Impact
BSC Section S 'Supplier Volume Allocation'	The opportunity could be used to remove the unnecessary text in 2.6.1A & 2.6.1B with associated references to the P272 Implementation Date, which has now passed. Or the approach used by P272 could be used to implement this change.
BSC Section X – Annex X-1 'General Glossary'	The definition of Advanced Meter will require amendment. Inclusion of definitions identifying whole current and CT Metering Equipment, utilising the same definitions in the SLC would be appropriate.

Impact on EBGL Article 18 terms and conditions

This Modification is not expected to impact the BSC provisions that constitute EBGL Article 18 balancing terms and conditions or to extend them.

Impact on Code Subsidiary Documents

CSD	Potential Impact
BSCP516 'Allocation of Profile Classes and SSC's for Non Half Hourly SVA Metering Systems Registered in SMRS'	BSCP516 will need to be amended to expand the SLC 12.17-12.22 requirements for Advanced Meters to conditions 12.17-12.29, which covers the obligations to fit an Advanced Meter to CT Metering Systems. BSCP516 will be updated during the Assessment Procedure phase.

Impact on other Configurable Items

Configurable Item	Potential Impact
None	None identified

Impact on Core Industry Documents and other documents

Document	Potential Impact
Ancillary Services Agreements	None anticipated at this stage.
Connection and Use of System Code	The CCDG initially considered whether there may need to be a consequential change under the Connection and Use of System Code (CUSC) to avoid unwanted double charging of TNUoS for Metering Systems that move from NHH to HH during a charging year. It concluded that because the CoMC activity will only start in early 2023, by this point the critical elements of the Targeted Charging Review will have been implemented and so there will not be any adverse impacts on TNUoS and a CUSC Modification is not needed.
Data Transfer Services Agreement	None anticipated at this stage.
Distribution Code	
Grid Code	
Retail Energy Code	The CCDG initially considered whether there may need to be a consequential change under the REC, however this is no longer the case because the Modification doesn't have a direct impact on the REC. A complimentary REC Change R0015 'Remote communication obligations for Advanced Meters' has been raised in support of this Modification to require remote communications to be fitted and working for all CT Metering Systems prior to CoMC activities starting.

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Impact on Core Industry Documents and other documents	
Document	Potential Impact
Supplemental Agreements	None anticipated at this stage.
System Operator-Transmission Owner Code	
Transmission Licence	
Use of Interconnector Agreement	



What are the consumer benefit areas?

- 1) Will this change mean that the energy system can operate more safely and reliably now and in the future in a way that benefits end consumers?
- 2) Will this change lower consumers' bills by controlling, reducing, and optimising spend, for example on balancing and operating the system?
- 3) Will this proposal support:
 - i) new providers and technologies?
 - ii) a move to hydrogen or lower greenhouse gases?
 - iii) the journey toward statutory net-zero targets?
 - iv) decarbonisation?
- 4) Will this change improve the quality of service for some or all end consumers. Improved service quality ultimately benefits the end consumer due to interactions in the value chains across the industry being more seamless, efficient and effective.
- 5) Are there any other identified changes to society, such as jobs or the economy.

Impact on a Significant Code Review (SCR) or other significant industry change projects
<p>This Modification should be exempt of all open SCRs. Ofgem directed that this Modification be worked up by the MHHS Programme and be progressed by the BSC in their response to the CCDG Recommendations.</p> <p>An SCR exemption request was sent to Ofgem on 2 December 2021. At time of writing, we are awaiting confirmation</p>

Impact of the Modification on the environment and consumer benefit areas:	
Consumer benefit area	Identified impact
1) Improved safety and reliability	Neutral
2) Lower bills than would otherwise be the case	Neutral
3) Reduced environmental damage	Neutral
4) Improved quality of service The use of HH data results in more accurate Settlement than the NHH profiling arrangements.	Positive
5) Benefits for society as a whole	Neutral

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7 Recommendations

We invite the Panel to:

- **AGREE** that P432 progresses to the Assessment Procedure;
- **AGREE** the proposed Assessment Procedure timetable;
- **AGREE** the proposed membership for the P432 Workgroup; and
- **AGREE** the Workgroup's Terms of Reference.

Appendix 1: Glossary & References

Acronyms

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

Acronym	
Acronym	Definition
CCDG	Cross Code an Development Group
CoPs	Codes of Practice
CT	Current Transformer
CUSC	Connection and Use of System Code
DCMDG	Distribution Charging Methodologies Development Group
DWG	Design Working Group
DUoS	Distribution Use of System
HH	Half Hourly
HHDC	Half Hourly Data Collectors
IWA	Initial Written Assessment
LDSO	Licensed Distribution System Operators
MHHS	Market-wide Half-Hourly Settlement
MSID	Meter System Identifiers
NHH	Non Half Hourly
NHHDC	Non Half Hourly Data Collectors
PAB	Performance Assurance Board
PC	Profile Class
REC	Retail Energy Code
SCR	Significant Code Review
SLC	Supply License Conditions
TOM	Target Operating Model
WDs	Working Days

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
1	CCDG Consultation on Transition Approach For MHHS	https://www.elexon.co.uk/consultation/cdg-consultation-on-transition-approach-for-mhhs/

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Page(s)	Description	URL
3	SLC	https://www.ofgem.gov.uk/industry-licensing/licences-and-licence-conditions
3,18	BSC Section S 'Supplier Volume Allocation'	https://www.elexon.co.uk/the-bsc/bsc-section-s-supplier-volume-allocation/
3,18	BSC Section X, Annex X-1 'General Glossary'	https://www.elexon.co.uk/the-bsc/bsc-section-x-annex-x-1-general-glossary/
3,19	BSCP516 'Allocation of Profile Classes and SSC's for Non Half Hourly SVA Metering Systems Registered in SMRS'	https://www.elexon.co.uk/csd/bscp516-allocation-of-profile-classes-and-sscs-for-non-half-hourly-sva-metering-systems-registered-in-smrs/
5	P272 'Mandatory Half Hourly Settlement for Profile Classes 5-8'	https://www.elexon.co.uk/mod-proposal/p272-mandatory-half-hourly-settlement-for-profile-classes-5-8/
5	P300 'Introduction of new Measurement Classes to support Half Hourly DCUSA Tariff Changes (DCP179)'	https://www.elexon.co.uk/mod-proposal/p300/
5	P322 'Revised Implementation Arrangements for Mandatory Half Hourly Settlement for Profile Classes 5-8'	https://www.elexon.co.uk/mod-proposal/p322/
5	MHHS Transition Timetable	https://www.ofgem.gov.uk/publications/electricity-retail-market-wide-half-hourly-settlement-decision-and-full-business-case
5	Gross Supplier Market Share Data reports	https://www.elexon.co.uk/data/gross-supplier-market-share-data-reports/
6,11	Electricity settlement reform	https://www.ofgem.gov.uk/energy-policy-and-regulation/policy-and-regulatory-programmes/electricity-settlement-reform
6	CCDG Recommendations	https://www.elexon.co.uk/documents/industry-consultations/2021-industry-consultations/code-change-development-group-consultation-on-mhhs-recommendations-sept2021/
6,19	R0015 'Remote communication obligations for Advanced Meters'	https://reportal.co.uk/group/guest/-/remote-communication-obligations-for-advanced-meters
6,20	Ofgem response to the CCDG recommendations	https://www.ofgem.gov.uk/sites/default/files/2021-10/Ofgem%20response%20to%20CCDG%20recommendations%20on%20the%20MHHS%20Transition%20Approach.pdf

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External Links		
Page(s)	Description	URL
7	DWG	https://www.elexon.co.uk/group/design-working-group/
7	DWG MHHS TOM report	https://www.ofgem.gov.uk/publications/design-working-group-preferred-tom-report
8	Code Change Development Group	https://www.elexon.co.uk/group/code-change-and-development-group-ccdg/
8	MHHS Programme's Cross Code Advisory Group	https://www.mhhsprogramme.co.uk/governance/
10	BSCP504 'Non Half Hourly Data Collection for SVA Metering Systems Registered in SMRS'	https://www.elexon.co.uk/csd/bscp504-non-half-hourly-data-collection-for-sva-metering-systems-registered-in-smrs/
10	P429 'Switching off Participant-Reported PARMS Serials'	https://www.elexon.co.uk/mod-proposal/p429/
10	Distribution Charging Methodologies Development Group	https://www.dcusa.co.uk/group/dcmdg/
10	AMO guidance for Advanced Metering for CT Metering Systems	https://meteroperators.org.uk/stakeholder-information/technical-information/
10	Ofgem Full Business Case	https://www.ofgem.gov.uk/publications/electricity-retail-market-wide-half-hourly-settlement-decision-and-full-business-case
13	CP1549 'Amendment of BSCP516 to clarify the criteria for Non-Domestic SVA Metering Systems'	https://www.elexon.co.uk/change-proposal/cp1549/