CUSC Modification Proposal Form

CMP430: Adjustments to TNUoS Charging from 2025 to support the Market Wide Half Hourly Settlement (MHHS) Programme

Overview: This Modification looks to amend CUSC Section 14 to rectify defects relating to demand locational Transmission Network Use of System (TNUoS) charging that will become apparent during the Migration Phase of the Market Wide Half Hourly Settlement (MHHS) Programme, taking place between April 2025 and October 2026.

Modification process & timetable

1. **Proposal Form**
   16 February 2024
2. **Workgroup Consultation**
   09 April 2024 - 12 April 2024
3. **Workgroup Report**
   24 April 2024
4. **Code Administrator Consultation**
   30 April 2024 - 09 May 2024
5. **Draft Final Modification Report**
   23 May 2024
6. **Final Modification Report**
   31 May 2024
7. **Implementation**
   01 April 2025

Status summary: The Proposer has raised this modification and is seeking a decision from the Panel on the governance route to be taken.

This modification is expected to have a: High impact
Suppliers, Embedded Generators, Transmission connected Demand, ESO

Proposer's recommendation of governance route	Urgent modification to proceed under a timetable agreed by the Authority (with an Authority decision) with assessment by Workgroup. The Workgroups for CMP430 and CMP431 should be joined.	
Who can I talk to about the change?	**Proposer:** Neil Dewar Neil.dewar@nationalgrideso.com 07749 576 710	**Code Administrator Contact:** Deborah Spencer deborah.spencer@nationalgrideso.com
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What is the issue?

Background

Within the CUSC there are two mechanisms for demand locational Transmission Network Use of System (TNUoS) Charging. Non Half Hourly (NHH) transmission charges are based on the total volume consumed between 4pm and 7pm over the course of the year, while Half Hourly (HH) transmission charges are based on the consumer's average demand during the three 'Triad' periods between November and February. The demand locational element of TNUoS is expected to be £112m for Charging Year 24/25.[1]

Modification Proposal CMP266 was approved by Ofgem on 20 December 2016. This Modification afforded protection from the risk of double charging for sites that were in Measurement Classes F and G. There was an expected end date on this proposal of 1st April 2020 under the expectation that a decision would have been made to introduce Half Hourly Settlement for Profile Classes 1-4, removing the issue of TNUoS Charging for Elective Half Hourly Settled meters. In 2019, Ofgem approved CMP318 further extending the protection to 31 March 2023, with an anticipation that Market-wide Half Hourly Settlement (MHHS) Programme would remove the barriers. This was further extended as a result of CMP401 being approved in 2023, now linking the protection of MPANs in Measurement Classes F and G, to a MHHS Programme MHHS Milestone (M15 – End of Migration Period).

MHHS Programme Timeline

In April 2021, Ofgem published their MHHS Decision and Full Business Case[2] with associated transition timetable. This however, was subject to an 18 month delay and a Re-Plan was approved by Ofgem in June 2023[3]. The Programme is due to be completed by December 2026.

The MHHS Programme is split into different Milestones with the Suppler Migration of Meter Point Administrator Numbers (MPANs) due to take place between April 2025 and October 2026. During this period, Suppliers will move approximately 33m MPANs from legacy systems to a new MHHS Target Operating Model (TOM).

MHHS Design interactions with the CUSC

The ESO uses demand data from central settlement processes to calculate and charge demand locational TNUoS. Some of the data reported is based on Measurement Class.

In 2021, as part of Ofgem's MHHS Full Business[2], Measurement Classes were removed from the future MHHS design specification and were to be replaced by new Consumption Component Class (CCC) identifiers. (paragraph 3.10 – p25)

- Between April and June 2023, ESO Revenue and IT colleagues worked with the Elexon design team to develop the specification for the replacement Measurement Class with data items that would make up the revised CCC.

[1] https://www.nationalgrideso.com/document/301731/download (T22 Row 25)
[2] https://www.ofgem.gov.uk/sites/default/files/docs/2021/04/mhhs_full_business_case_final_version_for_publication_20.04.01.pdf
[3] https://www.ofgem.gov.uk/publications/decision-market-wide-half-hourly-settlement-change-request-cr022-mhhs-programme-replan

- By the end of this period, it was established that there would not be an exact replication of data items and as a result sites cannot be segmented in the current way for TNUoS charging and the risk of double charging (a site being charged under two different methodologies within one Charging Year) during the Migration phase remains.
- This was escalated both internally and externally for the 2nd half of the year and guidance was sought from Ofgem on the best Governance route for any modifications. This was provided in January 2024 and a decision was taken to de-couple the CUSC legal text changes from the MHHS Programme

What are the resulting Defect(s) in CUSC

At the completion of the MHHS Programme all MPANs will have moved from legacy arrangements and will be settled on a 30-minute basis, regardless of how a site is metered.

The CUSC sets out different charging methodologies for Demand Locational charges:

- Chargeable Demand Locational Capacity ('Triad'):
    - the average of the Supplier BM Unit's **half-hourly** metered gross demand during the Triad (£/kW)
- Chargeable Energy Capacity ('4pm-7pm peak'):
    - the Supplier BM Unit's **non half-hourly** metered energy consumption over the period 16:00 hrs to 19:00 hrs inclusive every day over the Financial Year (p/kWh)
- Chargeable Embedded Export Capacity:
    - the average of the Supplier BM Unit's **half-hourly** metered embedded export during the Triad

The CUSC does not define segmentation between half-hourly and non half-hourly using Measurement Class. However, Measurement Classes are used to describe data in different fields provided in the TUoS Report, or P0210[4]. Measurement Classes are only referred to in CUSC (F and G) to describe special arrangements that are in place up to MHHS Milestone 15 to reduce the risk of a site being charged under both Triad and 4pm-7pm peak methodologies within the same Charging Year ('double charging').

Double charging can occur when the settlement characteristics of a site cause it to move between the different demand locational methodologies at certain points in the Charging Year. Despite being settled half-hourly, the CUSC states that Measurement Classes F and G are treated as non half-hourly.

Measurement Class as a data item will no longer exist in the new MHHS TOM and the CCC replacement is not identical and therefore cannot replicate the information the P0210 (TUoS File HH/NHH Split).

Why change?

Impact on Charging Arrangements

There are three different elements to the defect. Without any action:

a. Demand data cannot be segmented in a way that maintains the same application of TNUoS charging for all sites, once they have been migrated to the new MHHS arrangements

[4] https://www.elexon.co.uk/documents/bsc-codes/business-definition-documents/sva-data-catalogue-volume-1-2/

b. The risk of double charging MPANs increases during MHHS Migration (April-25 to October-26) as sites move from legacy arrangements to the new MHHS arrangements

c. Some definitions or terminology within the CUSC may be inconsistent with any solution introduced under this Modification and MHHS baselined design

As a result, CUSC changes need to be considered to try to limit the potential impact from Charging Year 2025.

What is the proposer's solution?

Proposer's Solution

ESO propose to amend CUSC Section 14 to maintain the current charging methodologies and segment customers by the new MHHS data items that make up the P0210 report as a result of approval of Change Request (CR) 32[5] in the MHHS Programme.

The proposed solution would mean that sites would be segmented between the two methodologies for Charging purposes, using the new MHHS Design Data items – i.e. Domestic and Connection Type Indicators, once they have been migrated. Connection Type Indicator is defined under Industry Standing Data (ISD): MHHS Entities Data Items[6] as ISD Entity ID M2.

The proposal is to align the CUSC to the relevant Balancing and Settlement Code (BSC) Sections and definitions to state that:

- Pre MHHS migration, a site will be charged under the existing arrangements; and
- Post MHHS migration, a site will be charged based on logic derived from the Connection Type Indicator and Domestic Premise Indicator

The below table sets out the detail of the proposed arrangements:

Domestic/Non Dom	Connection Type Indicator	Possible Charging Arrangements (Post Migration outcome)	Current Arrangements (Measurement Class and Charging)
Domestic	All	4pm-7pm	A 4pm-7pm F 4pm-7pm C Triad
Non-Domestic	WC (Whole Current)	4pm-7pm	G 4pm-7pm A 4pm-7pm
	L (LV with Current Transformer)	Triad	C Triad E Triad A 4pm-7pm
	H (HV with Current Transformer)	Triad	C Triad E Triad A 4pm-7pm
	E (EHV with Current Transformer)	Triad	C Triad E Triad A 4pm-7pm
	U (Unmetered)	Triad	D (all UMS will be moved from MC B pre-migration) Triad

Yellow highlight indicates sites that would change from current charging arrangements

This proposal maintains the current segmentation of MPANs between the different demand locational methodologies as close to existing arrangements as possible, with MHHS data items available. However, some MPANs would face a change in charging

[5]https://www.mhhsprogramme.co.uk/api/documentlibrary/Change%20IAs/MHHS-DEL1615%20CR032%20-%20Change%20to%20Interface%20MHHS-IF-165%20P0210%20TUoS%20Reporting%20v2.3[2][97].docx
[6]https://www.mhhsprogramme.co.uk/api/documentlibrary/Design%20Documents/MHHSP_EDI021_ISD_Entities%20v5.5.pdf

methodology as the Measurement Class mapping cannot replicate the current segmentation exactly. Risk scenarios are highlighted in yellow in the above table.

In addition, some customers could be exposed to the risk of double charging once they migrate, if they are subject to a change in charging methodology. The following list expands on the scenarios above:

a. High consuming or large Domestic sites that are currently Measurement Class C are charged under Triad arrangements and can access embedded export benefits. It is proposed all Domestic sites would be charged under the 4pm-7pm methodology, which would apply any embedded export benefit in a different way
b. Microbusiness CT metered sites that have opted out of the provision of half-hourly data under Supply Licence SLC47 will currently have a Non Half Hourly Measurement Class (MC A) and would be charged under the 4pm-7pm methodology. Under this proposal, these would be charged under Triad arrangements with all CT metered sites.
c. Other non-Domestic CT metered sites may be registered as Measurement Class A. However, the recent approval of P432 'Half Hourly Settlement for CT Advanced Metering Systems'[7] will mean that these sites will move to Measurement Class C or E prior to MHHS Migration start. These sites would therefore not experience a change in Charging arrangement as a result of this CUSC proposed solution.
d. Reverse migration is possible between Milestone 11 (April 2025) and Milestone 14 (March 2026) where a migrated site switches from a MHHS Supplier to a non-Qualified MHHS supplier. In this scenario, a site will be registered with the previous Measurement Class held. It is expected that there will be very few customers that choose to switch back to legacy arrangements in this 11-month window.

ESO does not have the data at the level of granularity required to report how many MPANs would be subject to the risk scenarios. However, the number of scenarios identified suggests the impact could be low. ESO would like to understand if there is a way to verify this with data provided by Suppliers.

This solution is preferrable to others considered in relation to IT impacts and costs required to support this solution. It is anticipated that only Elexon logic to populate the P0210 file would be required.

In addition, this solution poses the least risk of impacting MHHS delivery timescales and has been discussed with Elexon, Helix and MHHS Programme and they are supportive of this solution.

Whilst the solution does not remove the risk of double charging, it reduces it significantly from the baseline and the risk is maintained at a low level. This is due to using physical metering characteristics of a site to segment demand rather than Measurement Class which, whilst considering metering type, is also subject to whether demand for a site is above or below 100kW.

ESO are proposing that the solution is not timebound in the CUSC legal text and so would be implemented on an enduring basis. The TNUoS Task Force[8], under Charging

[7] https://www.elexon.co.uk/mod-proposal/p432/
[8] https://www.chargingfutures.com/task-forces/task-forces/transmission-network-use-of-systems-charges-task-force/resources/ See Meeting 12 documentation

Futures, is considering potential reform of charging of locational TNUoS to demand users and so may make recommendations for CUSC Modifications to be raised to be applicable to Charging years beyond 2025.

This proposal would address defects (a) and (b) highlighted in the section above (page 4/5) but is co-dependent on the non-Charging Modification (CMP431) which will address defect (c).

Draft legal text

ESO has identified that legal text changes are likely to be required for Section 14.

Legal Text to be provided once solution and approach has been agreed by the Workgroup.

What is the impact of this change?

Proposer's assessment against CUSC Charging Objectives	
Relevant Objective	**Identified impact**
(a) That compliance with the use of system charging methodology facilitates effective competition in the generation and supply of electricity and (so far as is consistent therewith) facilitates competition in the sale, distribution and purchase of electricity;	**Positive** This CUSC change, aligns with the MHHS Programme migration of MPANs, facilitating delivery according to the MHHS milestones. This should support Suppliers' migration in an orderly and timely manner. Consequently, it facilitates MHHS Programme consumer benefits such as more dynamic tariffs and increased competition from Suppliers migrating early in the migration window.
(b) That compliance with the use of system charging methodology results in charges which reflect, as far as is reasonably practicable, the costs (excluding any payments between transmission licensees which are made under and accordance with the STC) incurred by transmission licensees in their transmission businesses and which are compatible with standard licence condition C26 requirements of a connect and manage connection);	**Positive** This solution maintains the existing locational demand charging methodologies but introduces segmentation between the methodologies based on metering characteristics, rather than a demand threshold (100kW). The solution reduces the risk of double charging compared to the baseline and provides clarity to Suppliers in order for them to plan migration for specific at risk MPANs to avoid double charging.
(c) That, so far as is consistent with sub-paragraphs (a) and (b), the use of system charging methodology, as far as is reasonably practicable, properly takes account of the developments in transmission licensees' transmission businesses;	**Neutral** No impact
(d) Compliance with the Electricity Regulation and any relevant legally binding decision of the European Commission and/or the Agency *; and	**Neutral** No impact
(e) Promoting efficiency in the implementation and administration of the system charging methodology.	**Positive** This solution addresses a defect in the CUSC, aligning CUSC and BSC definitions, providing

	transparency on how sites can be segmented using new, enduring MHHS Data Items. The solution is proposed to be enduring rather than following the same approach as the series of previous Modifications to address double charging issues with reference to Measurement Class which had end dates.
**The Electricity Regulation referred to in objective (d) is Regulation (EU) 2019/943 of the European Parliament and of the Council of 5 June 2019 on the internal market for electricity (recast) as it has effect immediately before IP completion day as read with the modifications set out in the SI 2020/1006.	

Proposer's assessment of the impact of the modification on the stakeholder / consumer benefit categories	
Stakeholder / consumer benefit categories	**Identified impact**
Improved safety and reliability of the system	**Neutral**
Lower bills than would otherwise be the case	**Neutral**
Benefits for society as a whole	**Neutral**
Reduced environmental damage	**Neutral**
Improved quality of service	**Neutral**

When will this change take place?

Implementation date
01 April 2025 to ensure that the change is implemented prior to the start of MHHS Migration. Both this and CMP431 Modification Proposals need to be implemented on the same date due to co-dependencies.

Date decision required by
Decision required by 30 September 2024 to ensure compliance with CMP292 and not impact tariff setting and MHHS Programme.

Implementation approach
In accordance with CR32, the P0210 will provide revised data to ESO.

Proposer's justification for governance route
Governance route: Urgent modifications to proceed under a timetable agreed by the Authority (with an Authority decision). Assessment by Workgroup.

Urgency Criteria

ESO is raising as an Urgent Modification along with CMP431 and believe they would merit the current criteria:

(a) significant commercial impact on parties, consumers or other stakeholder(s)

Both Modifications relate to an imminent issue that would begin to impact parties, and therefore potentially consumers, from April 2025

If the defects are not addressed under urgent timescales:

- Parties will not have adequate notice of charging arrangements and tariff setting for Charging Year 2025 which introduces increased commercial risk
- There will be a significant increase in the instances of double charging sites under two different methodologies in the same Charging Year, again having a commercial impact on parties and potentially consumers
- Suppliers are not likely to have sufficient time to adjust their MHHS Migration plans under MHHS governance to mitigate double charging risk
- CUSC changes would be misaligned with MHHS Programme Milestones which could introduce a lack of clarity to all MHHS Programme Participants within the timebound, major reform of settlement arrangements
- MHHS is a key enabler for realising demand-shifting benefits for transmission networks. Estimate £1.4bn by 2034. A single year's delay in MHHS would lead to £90m in lost benefits. Both those figures come from DESNZ (BEIS) 2019 smart meter roll out CBA, so if the exercise were repeated today, both figures would likely be higher.[9] There are also unmonetized benefits for the distribution network from demand-shifting that would likely be reduced by any delay.

Interactions

☐Grid Code	☒BSC	☐STC	☐SQSS
☐European Network Codes	☐ EBR Article 18 T&Cs[10]	☐Other modifications	☐Other

There will need to be code revisions to account for the changes to references for Measurement Class. These will be included as part of the MHHS BSC Code drafting process and circulated to industry as part of the MHHS Industry Consultation. ESO will work with Elexon to ensure consistency across industry codes.

Acronyms, key terms and reference material

Acronym / key term	Meaning
BSC	Balancing and Settlement Code
CCC	Consumption Component Class
CMP	CUSC Modification Proposal
CUSC	Connection and Use of System Code
EBR	Electricity Balancing Regulation
MHHS	Market-wide Half Hourly Settlement
MPANs	Meter Point Administrator Numbers
STC	System Operator Transmission Owner Code
SQSS	Security and Quality of Supply Standards
T&Cs	Terms and Conditions
TNUoS	Transmission Network Use of System
TOM	Target Operating Model

Reference material

- MHHS Programme Website
- MHHS Re-Plan (MHHS Milestones)

[9] https://www.mhhsprogramme.co.uk/api/documentlibrary/Meeting%20Papers/MHHS-DEL770%20PSG%2007%20December%202022%20v1.0.pdf (Slide 21)

[10] If your modification amends any of the clauses mapped out in Exhibit Y to the CUSC, it will change the Terms & Conditions relating to Balancing Service Providers. The modification will need to follow the process set out in Article 18 of the Electricity Balancing Guideline (EBR – EU Regulation 2017/2195) – the main aspect of this is that the modification will need to be consulted on for 1 month in the Code Administrator Consultation phase. N.B. This will also satisfy the requirements of the NCER process.