

CUSC Panel

Friday 24 June 2022

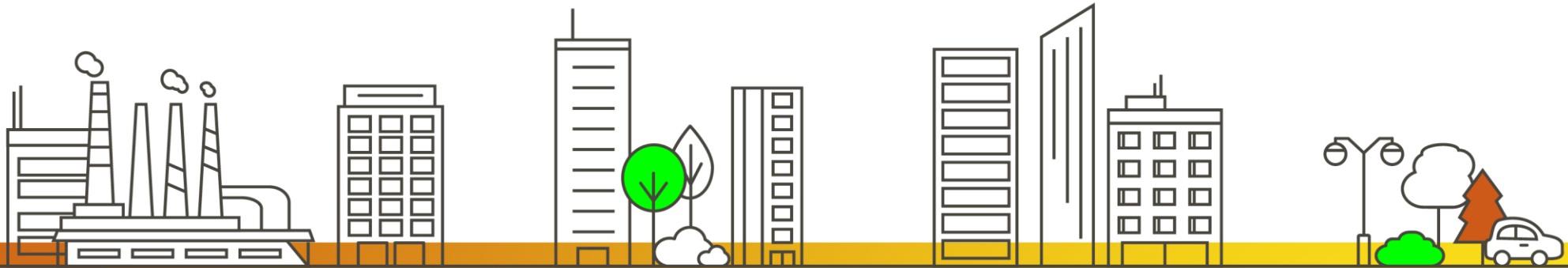
Online via Teams

WELCOME

nationalgridESO

Approval of Panel Minutes

**Approval of Panel Minutes from the
Meetings held 29 April 2022, 27 May
2022 and 30 May 2022**



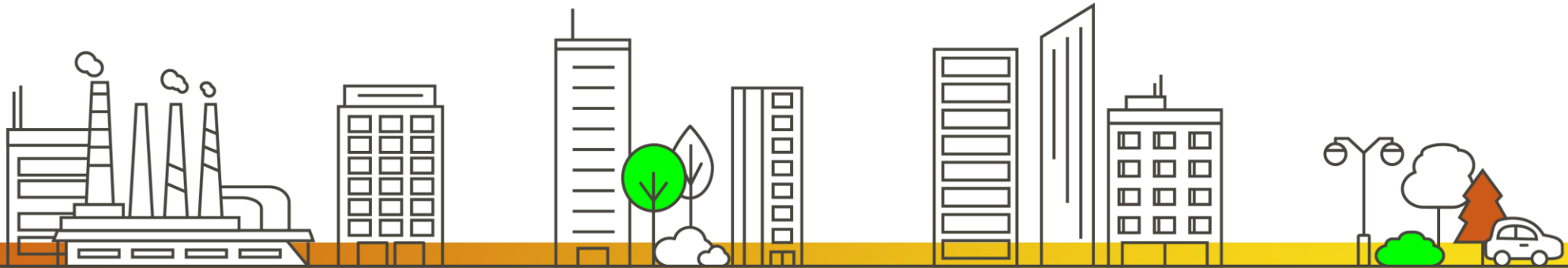
Actions Log

Review of the actions log



Chair's Update

An update from the Chair about ongoing relevant work, discussions etc.



Authority Decisions (as at 16 June 2022)



Decisions Received since last Panel meeting

- ☐ **CMP391** (Ofgem approved the Original on 31 May 2022. Implemented 1 June 2022).
- ☐ **CMP392** (Urgent treatment not approved 7 June 2022)
- ☐ **CMP371** (Decision received 10 June 2022 rejecting the Original proposal as the Authority decided that CUSC would less closely align with the ESO's obligations under their Electricity Transmission Licence if CMP371 is implemented)

Decisions Pending

- ☐ **CMP292** (Expected decision date of TBC in 2022 (previously 30 June 2021 and latterly 30 September 2021) as Ofgem still consider this to be low priority)
- ☐ **CMP298** (Expected decision date of 30 November 2022)
- ☐ **CMP300** (Expected decision date was 16 June 2022 – Ofgem to advise on new expected decision date at June 2022 Panel)
- ☐ **CMP328** (Expected decision date of 30 November 2022 - The Final Modification Report for the associated STC change (CM078) was issued to Ofgem on 7 June 2022)
- ☐ **CMP361/362** (Expected decision date of 24 June 2022)

Received Final Modification Reports since last Panel Meeting

None

New modifications submitted

CMP393 - Using Imports and Exports to Calculate Annual Load Factor for Electricity Storage; and

CMP394 - Removing Generation Charges from Electricity Storage Operators in Positive TNUoS Zones

Rob Newton - Zenobe



Critical Friend Feedback – CMP393 and CMP394

Code Administrator comments	Amendments made by the Proposer
<p>General ask to be clear about which forms of storage are in scope and why</p> <p>Added timeline</p> <p>Asked for justification for standard governance to be added</p> <p>Suggested shortening the “Why Change” section so clearly links to the issue that the Modification seeks to address</p>	<p>Proposer accepted all amendments suggested by the Code Administrator apart from shortening the “Why Change” section as Proposer feels this adds context</p>

Summary



Draft Code Modifications

1. CMP393: Using imports and exports to calculate annual load factor for electricity storage
2. CMP394: Removing generation charges from electricity storage operators in positive TNUoS zones

Research

- Cornwall Insight commissioned to model impacts of mods
- Ongoing engagement with stakeholders

Envisioned implementation date: April 2024

Impacted Parties

- Storage Operators, Generators, Transmission Owners, ESO, Parties Liable for TNUoS

Context: Storage and the TNUoS Methodology



The current methodology

- Last substantial updates in 2014 under Project TransmiT
- Tariffs are based on analysis of modelling that did not consider system impacts of storage build
- Generation mix has transformed since 2014

‘Conventional Carbon’ Generation Classification

- Battery storage added to classification in 2019/20
- Peak + (ALF x year round shared) + (ALF x year round not shared) + residual
- A tariff reflecting output and not input unduly discriminates against storage

Inconsistency with ACOs

- **Competition:** Inaccurate economic signal creates a barrier to entry
- **Cost-reflectivity:** Charges do not reflect benefits of storage above constraints
- **Developments in licensee business:** Charges do not reflect changes to generation mix as more storage connects. Nor do they reflect the utility of storage in achieving net zero emissions by 2050.

CMP393: 'Using import and export capacity to calculate annual load factor for storage'



Defect:

The Transmission Network Use of System (TNUoS) charging methodology currently includes battery storage and pumped storage in the 'Conventional Carbon' generation classification. As such, battery storage and pumped storage assets face the Conventional Carbon generation tariff: $\text{Peak} + (\text{Annual Load Factor [ALF]} \times \text{year-round shared}) + (\text{ALF} \times \text{year-round not shared}) + \text{generation adjustment}$.

Using only output to calculate ALF for pumped storage and battery storage does not reflect how storage assets can import power, as well as export it. Consequently, the TNUoS methodology does not accurately reflect how storage assets interact with the energy system.

CMP393: ‘Using import and export capacity to calculate annual load factor for storage’



Solution:

This modification proposes to alter the definition of ALFs with respect to storage. All storage that has booked TEC (i.e., pumped and battery, as currently defined) would face an ALF calculation based on net system usage, and not export only. Over time, it is anticipated that other storage technologies will also be included.

Storage technologies will face a TNUoS tariff with a bespoke Annual Load Factor (Storage ALF) calculation, taking into account imports as well as exports. We propose that the tariff will read: peak + (Storage ALF x year round shared) + (Storage ALF x year round not shared).

Baseline ALF = Gross Generation Volume (MWh) / TEC x 24 x 365

CMP393 Storage ALF = Gross Demand Volume (MWh) – Gross Generation Volume (MWh) / TEC x 24 x 365

CMP394: 'Removing generation charges from storage operators in positive TNUoS zones'



Defect:

Transmission-connected storage operators have a net neutral annual load factor. As such, their impact on the system differs from that of exporting generators.

Current transmission charges are designed to reflect the impacts of exporting generators. They do not register how storage assets interact with the energy system in technologically and locationally specific ways. The current TNUoS regime is therefore resulting in unduly discriminatory conditions for storage operators.

Storage brings a range of benefits to the transmission system. However, the current charging regime does not incentivise operators to deploy where the system need for storage is strongest: in generation-constrained areas. In fact, transmission charges in positive zones provide a signal that actively disincentivises storage operators from deploying in these zones.

CMP394: 'Removing generation charges from storage operators in positive TNUoS zones'



Solution:

We propose to incentivise storage operators to locate assets in generation-constrained regions by exempting pumped storage and battery storage assets in positive TNUoS zones from payment of TNUoS charges.



Modifications Against Applicable Charging Objectives

Facilitate competition: Positive:

- Remove a barrier to entry and reduces discrimination
- Better enable storage operators to compete on their relative merits
- Facilitate competition in the generation of electricity by reducing curtailment and tackling constraints

Cost-Reflective: Positive

- Reflect how battery storage and pumped storage impact transmission licensee costs by importing power, as well as exporting it.

Taking account of developments in transmission licensees' businesses: Positive

- Net zero goals
- Accelerating deployment of storage

Prioritisation

Complexity:

- Range of impacted parties

Importance:

- The modifications will remove an unduly discriminatory barrier to entry facing storage operators
- The modifications will provide significant system value by reducing constraint volumes and costs

Urgency:

- The complexity and importance of the modifications justify high prioritisation in the stack
- Cornwall Insight's modelling (see next slide) shows the primary benefits of the modifications are in early years (2025-30), supporting use of the Standard Governance Procedure with a 2024 implementation date

Cornwall Insight Modelling



Cornwall Insight modelling in Annex 1 demonstrates impacts on:

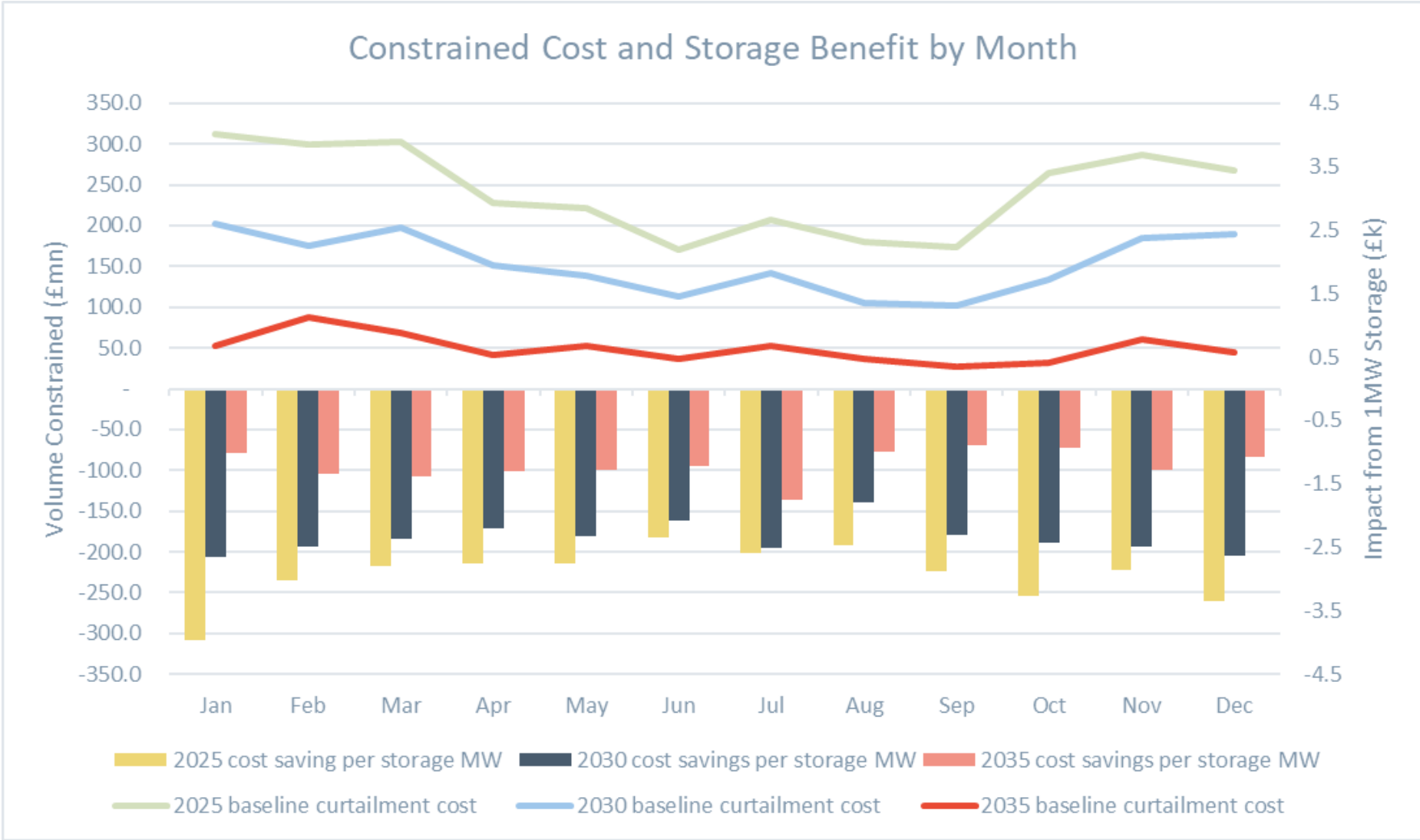
1. Constraint costs

Cornwall Insight modelled the marginal impact of adding a 1MW/2MWh storage facility behind the B6 boundary. The assessment showed a reduction in constraint volumes of 202MWh in 2025, falling to 127MWh in 2035. Analysis of the financial impact in 2025 shows the addition of a 1MW/2MWh storage facility behind the B6 boundary has a positive impact, reducing constraint costs by ~£35,000/MW. The value of 1MW of storage behind the B6 boundary falls to ~£28,000/MW in 2030, and ~£14,500/MW in 2035.

See graph in next slide.

2. TNUoS rates for generators

Cornwall Insight modelled the impact of the proposed modifications on TNUoS for generation technologies other than storage. They found the modifications would drive slight increases in TNUoS charges for all generators in GB: typically ~£0.20/kW. The modifications are therefore not expected to have a material impact on most generators' total TNUoS charges.



Timeline for CMP393 and CMP394 (to be run on same day) – Proposed Standard Timeline – Workgroup

Milestone	Date	Milestone	Date
Modification presented to Panel	24 June 2022	Workgroup report issued to Panel	19 January 2023
Workgroup Nominations (15 working days)	28 June 2022 to 19 July 2022 (5pm)	Panel sign off that Workgroup Report has met its Terms of Reference	27 January 2023
Workgroup 1 (assuming at least Medium to High in prioritisation stack) Understand proposal and solution(s), note the scope, agree timeline, agree and review terms of reference, review cross code impacts, review analysis, agree next steps	2 August 2022	Code Administrator Consultation (15 working days)	1 February 2023 to 22 February 2023 (5pm)
Workgroup 2 - Further analysis review, refine solution(s), draft legal text and consider potential Workgroup Consultation questions	2 September 2022	Draft Final Modification Report (DFMR) issued to Panel	23 March 2023
Workgroup 3 - Review Workgroup Consultation and questions and finalise Workgroup Consultation	22 September 2022	Panel undertake DFMR recommendation vote	31 March 2023
Workgroup Consultation (15 working days)	3 October 2022 to 24 October 2022 (5pm)	Final Modification Report issued to Panel to check votes recorded correctly	4 April 2023
Workgroup 4 - Review Workgroup Consultation Responses, consider new points raised, refine solution, review legal text and discuss any potential alternatives	4 November 2022	Final Modification Report issued to Ofgem	12 April 2023
Workgroup 5 - Finalise solutions (including legal text) and alternatives and hold alternative vote	28 November 2022	Ofgem decision	By 1 October 2023
Workgroup 6 - Finalise Workgroup Report and hold Workgroup Vote	15 December 2022	Implementation Date	1 April 2024

CMP393 – the asks of Panel

- **AGREE** that this Modification should follow Standard Governance (Ofgem decision) rather than the Self-Governance Criteria (Panel decision)
- **AGREE** that this Modification should proceed to Workgroup
- **AGREE** Workgroup Terms of Reference
- **NOTE** that there appear not to be any impacts on the Electricity Balancing Regulation (EBR) Article 18 terms and conditions held within the CUSC
- **NOTE** the proposed timeline

CMP394 – the asks of Panel

- **AGREE** that this Modification should follow Standard Governance (Ofgem decision) rather than the Self-Governance Criteria (Panel decision)
- **AGREE** that this Modification should proceed to Workgroup
- **AGREE** Workgroup Terms of Reference
- **NOTE** that there appear not to be any impacts on the Electricity Balancing Regulation (EBR) Article 18 terms and conditions held within the CUSC
- **NOTE** the proposed timeline



In Flight Modification Updates

**Review of all CUSC Modifications with
current status, next steps and any Panel
recommendations**

Request to change CMP315/CMP375 modification timeline

CMP315/CMP375	Workgroup Report issued to Panel	DFMR issued to Panel	FMR issued to Ofgem
Previous timeline	21 July 2022	22 September 2022	11 October 2022
New timeline	22 September 2022	17 November 2022	6 December 2022

Rationale: Workgroup held 25 May 2022 to discuss the Workgroup Consultation responses and agreed that analysis is required as a priority - this will be presented to a Workgroup on 30 June 2022. As a result, the Workgroup Report will be presented to September 2022 rather than July 2022 Panel - the timeline will be presented to June 2022 Panel for their approval.

Ask of Panel: Agree revised timeline?

Withdrawal of CMP289

- **CMP289** (Consequential change to support the introduction of explicit charging arrangements for customer delays and backfeeds via CMP288) seeks to recover additional costs incurred by Transmission Owners and TNUoS liable parties as a result of Transmission Owners completing transmission works earlier than the contracted Completion Date or the party connecting initiating a delay to the contracted Completion Date. The changes to the charging element of the CUSC are covered under CMP288.
- Proposer formally notified the Code Administrator on 26 May 2022 that they wish to withdraw CMP289 as no solution needed for CMP289 following the deliberations on CMP288.
- CUSC 8.16.10 defines the process for withdrawal and industry were notified on 26 May 2022 and had until 5pm on 6 June 2022 to express their wish to become the new Proposer. **As no-one expressed a wish to become the new Proposer by 5pm on 6 June 2022, Panel, on 24 June 2022, will be asked under CUSC 8.16.10(b) to agree to the withdrawal of CMP289.**

Discussions on Prioritisation

- AGREE where CMP392 is to be placed in the prioritisation stack
- AGREE where New Modifications that need Workgroups are placed in the prioritisation stack
- AGREE any movements in the current prioritisation stack

Prioritisation Principles

Section 8: 8.19.1.(e) makes the following provision for the Panel and states “Having regard to the complexity, importance and urgency of particular CUSC Modification Proposals, the CUSC Modifications Panel may determine the priority of CUSC Modification Proposals and may (subject to any objection from the Authority taking into account all those issues) adjust the priority of the relevant CUSC Modification Proposal accordingly”

Complexity	The modification is viewed as being resource intensive and will most likely require a higher than average number of workgroups to conclude the process. Additionally the modification defect is viewed to have implications for many different areas of the energy market which need to be taken into consideration throughout the process.
Importance	The perceived value & risk associated with the proposed modification. The value / risk could be considered from a number of different perspectives i.e. financial / regulatory / licence obligations both directly for customer and end consumers more generally.
Urgency	A modification which requires speedy consideration within the code governance process, both complexity and importance should be factors considered in evaluating urgency as well as the timescales for implementation within the respective code.

BREAK



Workgroup Reports

CMP288 - 'Explicit charging arrangements for customer delays and backfeeds'

Ruth Roberts

CMP288 Explicit charging arrangements for customer delays and backfeeds

CMP289 Consequential change to support the introduction of explicit charging arrangements for customer delays and backfeeds via CMP288

These modifications were raised by National Grid Electricity Transmission on 23 February 2018 and a joint Workgroup was formed to evaluate both modifications.

Since the February 2018 Panel, National Grid Electricity System Operator (NGESO) became legally separate from National Grid Electricity Transmission (NGET).

NGET was approved by the Authority to become Proposer of CMP288 as they were deemed to be materially affected by the defect of the modification. NGESO maintained to be the Proposer of CMP289.

Nine Workgroup meetings were held between May 2018 and December 2019 before the modifications were put on hold due to Panel Prioritisation of other modifications.

The CMP288 Proposal was withdrawn by NGET on 22 July 2021 and it was adopted by NGESO.

The Proposer withdrew their support for CMP289 on 26 May 2022 following the Workgroup Consultation, as they believed a consequential change was no longer required. There were no requests from industry to adopt support of CMP289 within the withdrawal window.

Key points to note to the Panel

- Original solution has gone through a significant change since the modification was originally raised to the Panel in February 2018.
- In the Workgroup consultation, 10/12 responses did not believe that the original proposal better facilitates the applicable objectives
- Some respondents to the consultation would prefer the charging methodology to sit within the CUSC under open governance
- Some respondents believed risk is transferred to developer by this modification rather than being shared, and there is discrimination between Users
- The Workgroup were asked to consider Shared Works and following their consultation discussed three Shared Works scenarios which must be avoided.
- An alternative request was raised, however not brought forward by the Workgroup. The alternative looked to impose charges on Users for incremental costs incurred by the TO where a User requests a delay to the Completion Date for a connection ('delay charges'). The alternative proposal built on CMP288 to clarify that any work undertaken and costs incurred by the TO prior to the Trigger Date specified in a Bilateral Connection Agreement will not be taken into account when calculating delay charges.

CMP288 Workgroup Vote

- 2 out of 8 voting members voted that the Original better facilitated the applicable objectives than the baseline

Terms of Reference

- The Workgroup conclude that they have met their Terms of Reference and the references can be located below:

Workgroup Term of Reference	Location in Workgroup Report (to be completed at Workgroup Report stage)
Consider EBR implications	No EBR implications identified.
Transition implementation arrangements	Transition implementation arrangements for some of these charges have been agreed in England and Wales. Existing arrangements will be honoured.
Asset identification and asset access	Considered in previous work (2018) – Annex 3.
Paying for delay for User	Workgroup Considerations section.
WACC publication and WACC information specific to TO's calculation of charges passed through to the User	Considered in previous work (2018) – Annex 3.
Information flow ahead of commitment stage gates	Workgroup Considerations section.
Assessment of materiality of the costs	Workgroup Considerations section.
Consider assurance process (including non-CUSC processes) e.g. how Users can validate and dispute such charges	The dispute process is unchanged by this proposal.
Consider the different approaches within the TO's charging statements and processes; and consider any recommendations to be made to the TOs as a result	Workgroup Considerations section.

CMP288 Timeline

Milestone	Date
Code Administrator Consultation	27 June 2022 – 18 July 2022
Draft Final Modification Report (DFMR) issued to Panel	21 July 2022
Panel undertake DFMR recommendation vote	29 July 2022
Final Modification Report issued to Panel to check votes recorded correctly (5 working days)	2 August 2022
Final Modification Report issued to Ofgem	10 August 2022
Ofgem decision	TBC
Implementation Date	10 working days after Ofgem decision

CMP288 - the asks of Panel

- **AGREE** that the Workgroup have met their Terms of Reference
- **AGREE** that this Modification can proceed to Code Administrator Consultation
- **NOTE** that this Modification does not impact the Electricity Balancing Regulation (EBR) Article 18 terms and conditions held within the CUSC?
- **NOTE** the ongoing timeline



Draft Final Modification Reports

CMP388 – Transmission Demand Residual (TDR) minor clarifications

Paul Mullen

CMP388 Background

Ofgem's recent decisions on CUSC modifications CMP335/336 and CMP340/343 contained several small changes/clarifications that would be beneficial in addition to some identified by the ESO. CMP388 seeks to implement these clarifications.

The Panel met on 29 April 2022 and agreed that it goes straight to Code Administrator Consultation.

Code Administrator Consultation was opened on 6 May 2022 and closed 5pm on 27 May 2022 with 2 non-confidential responses received, both of which were supportive of the change and implementation date. One of these respondents asked that any decision on CMP388 is made at the same time as CMP389.

CMP388 Next Steps

Milestone	Date
Draft Final Modification Report presented to Panel	24 June 2022
Final Modification Report issued to Panel to check votes recorded correctly	28 June 2022
Submission of Final Modification Report to Ofgem	6 July 2022
Ofgem decision	By 31 October 2022
Implementation Date	1 April 2023

CMP388– the asks of Panel

- **NOTE** that this Modification does not impact the Electricity Balancing Regulation (EBR) Article 18 terms and conditions held within the CUSC?
- **VOTE** whether or not to recommend implementation
 - *Does the CMP388 Original proposal better facilitate the objectives than the current CUSC arrangements?*
- **NOTE** next steps

CMP389 Background

CMP389 aims to implement changes related to band boundaries as stated in paragraph 3.12 of Ofgem's recent decision on CUSC modification CMP343. The CMP389 Original seeks to change the boundary between transmission bands 3 and 4 (from the 85th to 93rd percentile).

The Panel met on 29 April 2022 and agreed that it goes straight to Code Administrator Consultation.

Code Administrator Consultation was opened on 16 May 2022 and closed 5pm on 13 June 2022 with 6 non-confidential responses and 1 confidential response received.

- 5 of the 6 non-confidential responses were supportive of the change and implementation approach and 2 of these respondents the solution was in line with Ofgem's request in their CMP343 decision. 2 of these respondents noted the need for further change to address current cliff-edges given the difference in TNUoS between Transmission Bands 3 and 4; and
- The 1 non-confidential response, who did not support the change, argued that this is detrimental to competition and noted that 15 out of the 19 parties that would be impacted by CMP389 would pay more TNUoS than under CMP343. The Proposer had also noted that CMP389 would redistribute a fixed value of charges between users located in transmission bands 3 and 4 resulting in 'winners' and 'losers'; and
- No Legal Text changes proposed.

CMP389 Next Steps

Milestone	Date
Draft Final Modification Report presented to Panel	24 June 2022
Final Modification Report issued to Panel to check votes recorded correctly	28 June 2022
Submission of Final Modification Report to Ofgem	6 July 2022
Ofgem decision	By 31 October 2022
Implementation Date	1 April 2023

CMP389– the asks of Panel

- **NOTE** that this Modification does not impact the Electricity Balancing Regulation (EBR) Article 18 terms and conditions held within the CUSC?
- **VOTE** whether or not to recommend implementation
 - *Does the CMP389 Original proposal better facilitate the objectives than the current CUSC arrangements?*
- **NOTE** next steps

CMP390 Background

CMP390 seeks to update Connection application forms to enable disclosure of information to government for purposes of the National Security and Investment (NSI) Act 2021

The Panel met on 29 April 2022 and agreed that it goes straight to Code Administrator Consultation.


Code Administrator Consultation was opened on 9 May 2022 and closed 5pm on 30 May 2022 with 1 non-confidential response received, which was from the Proposer, and was supportive of the change and implementation date.

CMP390 Next Steps

Milestone	Date
Draft Final Modification Report presented to Panel	24 June 2022
Final Modification Report issued to Panel to check votes recorded correctly	28 June 2022
Submission of Final Modification Report to Ofgem	6 July 2022
Ofgem decision	TBC
Implementation Date	10 working days after Authority decision

CMP390– the asks of Panel

- **NOTE** that this Modification does not impact the Electricity Balancing Regulation (EBR) Article 18 terms and conditions held within the CUSC?
- **VOTE** whether or not to recommend implementation
 - *Does the CMP390 Original proposal better facilitate the objectives than the current CUSC arrangements?*
- **NOTE** next steps



Standing Groups - *Updates on all standing groups relevant to CUSC panel e.g. potential for future governance changes or modifications*

Governance Standing Group – Garth Graham

TCMF – Karen Thompson-Lilley



European Updates - *Updates on all European developments relevant to CUSC panel e.g. potential for future governance changes or modifications*

European Code Development – Nadir Hafeez

Joint European Stakeholder Group – Garth Graham

Update on Other Industry Codes

Grid Code

STC

SQSS

DCUSA

BSC



Relevant Interruptions Claim Report

(January, April, July, October)

The background features several decorative yellow lines. In the top left, there are several curved, overlapping lines that sweep upwards and to the right. In the bottom right, there are several straight, parallel lines that sweep upwards and to the right, creating a sense of movement and energy.

Governance

None this month

The background features several abstract, flowing yellow lines. Some lines are curved and sweep across the top left, while others are more linear and extend diagonally from the bottom left towards the right side of the frame.

Horizon Scan

(February, May, August, November)



Forward Plan Update/Customer Journey)

(January, March, May, July, September, November)

AOB

1. None this month

Next Panel Meeting

**10am on 29 July 2022 in person at ESO
Offices, Faraday House, Warwick**

Papers Day – 21 July 2022

**Modification Proposals to be submitted
by – 14 July 2022**

TCMF – 7 July 2022

Close



Trisha McAuley

Independent Chair, CUSC Panel

nationalgridESO