

# WELCOME

## CMP393 & CMP394

Friday 2<sup>nd</sup> September

Online Meeting via Teams

**nationalgrid**ESO



# Modification Process

Ruth Roberts – National Grid ESO Code Administrator



# Code Modification Process Overview



Talk to us

Forums



Raise a  
mod

Panels



Refine  
solution

Workgroups  
(Workgroup Consultations)



Consult

Ofgem/Panel



Decision



Implement

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# Objectives and Timeline

Ruth Roberts – National Grid ESO Code Administrator

# Timeline for CMP393/CMP394 as at 2 September 2022

Milestone	Date	Milestone	Date
Modification presented to Panel	24 June 2022	Workgroup report issued to Panel	18 May 2023
Workgroup Nominations (15 working days)	19 July 2022 to 9 August 2022 (5pm)	Panel sign off that Workgroup Report has met its Terms of Reference	26 May 2023
Workgroup 1 (Understand proposal and solution(s), note the scope, agree timeline, agree and review terms of reference, review cross code impacts, review analysis and agree what other analysis is required, agree next steps)	2 September 2022	Code Administrator Consultation (15 working days)	30 May 2023 to 20 June 2023 (5pm)
Workgroup 2 to 4 - Further analysis review	28 September 2022, 4 November 2022 and 30 November 2022	Draft Final Modification Report (DFMR) issued to Panel	22 June 2023
Workgroup 5 - Refine solution(s), draft legal text and consider potential Workgroup Consultation questions	12 January 2023	Panel undertake DFMR recommendation vote	30 June 2023
Workgroup 6 - Review Workgroup Consultation questions and finalise Workgroup Consultation	7 February 2023	Final Modification Report issued to Panel to check votes recorded correctly	4 July 2023
Workgroup Consultation (15 working days)	17 February 2023 to 10 March 2023 (5pm)	Final Modification Report issued to Ofgem	12 July 2023
Workgroup 7- Review Workgroup Consultation Responses, consider new points raised, refine solution, review legal text and discuss any potential alternatives	22 March 2023	Ofgem decision	By 1 October 2023
Workgroup 8 - Finalise solutions (including legal text) and alternatives and hold alternative vote	11 April 2023	Implementation Date	1 April 2024
Workgroup 9- Finalise Workgroup Report and hold Workgroup Vote	3 May 2023		

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# Terms of Reference

Ruth Roberts – National Grid ESO Code Administrator

# CMP393 – Terms of Reference

## Workgroup Term of Reference

1.Consider EBR implications

2.Consider why this change only applies to a subset of storage technologies (i.e. battery and pumped storage), and potential discrimination for conventional, controllable generation

3.Consider the full Cornwall Insight modelling results and consider the impacts on TNUoS parties

4.Undertake analysis on the extent to which storage can on average be expected to impact on constraint cost levels (under different commercial/operational models)

5.Consider the duration of the storage, both on an asset by asset basis and a total asset class basis, in terms of its contribution to the avoidance of constraints

6.Consider the impacts for Storage Operators not located in areas with constraints

7.Consider the impacts of storage providing ESO Balancing Services for constraint management

8.Consider any interactions with the TNUoS Taskforces, in-flight Modifications (CMP316 and CMP331) and the current NETS SQSS review in terms of the treatment of storage

9.Consider the appropriateness of the solution for both positive and negative charging zones

10.Consider whether the use of a 'net' as opposed to 'gross' ALF is consistent with the concept of 'Sharing' related to the Year Round Background.

# CMP394 – Terms of Reference

## Workgroup Term of Reference

1.Consider EBR implications

2.Consider why this change only applies to a subset of storage technologies (i.e. battery and pumped storage), and potential discrimination for conventional, controllable generation

3.Consider the full Cornwall Insight modelling results and consider the impacts on TNUoS parties

4.Consider the nature of demand TNUoS as a conceptual opposite of Generation TNUoS

5.Consider any interactions with the TNUoS Taskforces, in-flight Modifications (CMP316 and CMP331) and the current NETS SQSS review in terms of the treatment of storage

6.Consider the appropriateness of the solution for both positive and negative charging zones



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# Proposer's Solution:

**Rob Newton – Zenobe**



**CMP393:** Using imports and  
exports to calculate annual  
load factor for storage

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

**ZENOBÈ**





## 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 an almost 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.

# Next Steps

Ruth Roberts – National Grid ESO Code Administrator