CUSC Alternative Form

CMP393 Alternative Request 1:

Overview: Calculation of the ALF as maximum of either “Generation minus demand” or Zero to avoid excessively negative ALFs.

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What is the proposed alternative solution?

The proposed CMP393 solution is somewhat unclear but the calculation of the ALFs by NGESO suggests that it is based on Generation energy volume *minus* demand energy volume.

Since storage will always have some round-trip efficiency losses, demand volumes for pure storage users will always exceed generation so Generation volume minus Demand volume will result in a negative ALF. This risks unintended consequences:

- Low-efficiency storage users could have in very negative ALFs which could lead to perverse outcomes in which a user with a strongly negative ALF locates in a region *specifically to access a negative TNUoS charge*. It does not seem efficient that such a locational signal should incentivise an outcome that promotes inefficiency elsewhere in the market (unless the 'waste' energy is somehow recovered and used for a useful purpose)
- A user which is not specific storage but still has both flexible demand AND generation should be entitled to similar treatment as 'storage' in the calculation of their ALF (e.g. an electrolysis plant collocated with a hydrogen generator should be considered on the same basis as a battery).

A simple solution to overcome these issues is to define ALF as the **maximum** value of either:

- Generation minus Demand / TEC x 24 x 365

Or

- Zero.

i.e Max (0, Generation – Demand / (TEC x 24 x 365))

This ensures:

- Negative ALFs are avoided and no credit given for inefficient storage
- For users without dispatchable demand, ALF is calculated as normal

The key caveat (which should also apply for the original proposal) is this only applies to classes of users that have 100% dispatchable generation and demand (and so respond to market price signals) such that the overall effect of their use of the system is to tend to operate in opposition to renewable generation output so as to relieve network congestion and avoid requiring additional network build to accommodate the user (assuming that the network will in future be sized to accommodate the maximum renewable output).

(It would be even better to apply to this to the *proportion* of a user's TEC or Import capacity that was dispatchable but in the proposer's view it is likely to be too complex to define how that is demonstrated/proven but could be looked at in a future mod)

What is the difference between this and the Original Proposal?

After contacting the proposer of the modification, we understand the original proposal defines the ALF only by Generation minus demand / TEC x 24 x 365 (and that there was a 'typo' in the workgroup report that showed this as "Demand minus generation").

The difference between this alternative and the Original is that this modification defines the ALF based on the maximum (highest) value of either the Generation minus demand or

zero, and thereby avoids a negative number for the ALF, which could have unintended consequences by incentivising inefficient storage.

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 removes the risk of perverse incentives that could result in inefficient storage being located specifically in response to negative charges and also provides the same benefit to users who may not be classified as storage but have the same dispatchable generation and demand characteristics as storage. Otherwise benefits are same as original proposal
(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 removes the risk of perverse incentives that could result in inefficient storage being located specifically in response to negative charges and also provides the same benefit to users who may not be classified as storage but have the same dispatchable generation and demand characteristics as storage. Otherwise benefits are same as original proposal

(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;	**None**
(d) Compliance with the Electricity Regulation and any relevant legally binding decision of the European Commission and/or the Agency *; and	**None**
(e) Promoting efficiency in the implementation and administration of the system charging methodology.	**None**
*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.	

When will this change take place?

Implementation date:

As per Original proposal

Implementation approach:

As per Original proposal