CUSC Modification Proposal Form

CMP441: Reducing the credit risk of supplying non-embedded hydrogen electrolysers

Overview: This modification seeks to address a discrepancy in the timing in de-energising a non-embedded hydrogen electrolyser verses an embedded hydrogen electrolyser

Modification process & timetable

1. **Proposal Form**
   12 September 2024
2. **Code Administrator Consultation**
   03 October 2024 - 24 October 2024
3. **Draft Final Modification Report**
   21 November 2024
4. **Final Modification Report**
   12 December 2024
5. **Implementation**
   10 Business Days after Authority decision

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

This modification is expected to have a: Low impact

On Customers, Suppliers and Transmission System Operators

Proposer's recommendation of governance route	Standard Governance modification to proceed to Code Administrator Consultation	
Who can I talk to about the change?	**Proposer:** Dan Brimelow dan.brimelow@statkraft.com 02075491000	**Code Administrator Contact:** cusc.team@nationalgrideso.com

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What is the issue?

To achieve clean power by 2030, Government has pledged to double the target on green hydrogen, with 10GW of production for use particularly in flexible power generation, storage, and industry like green steel.

Hydrogen Allocation Rounds (HAR) are currently the Government's main tool to kick start this emerging industry. Agreements for the first of these rounds are due to be issued imminently with around 2.5GW due to be awarded within the next three years.

Industry codes, designed around traditional supply use cases, need changing to accommodate this new evolution to the energy system.

Hydrogen electricity supply is very different to traditional electricity supply since almost 100% of the variable input cost of the electrolyser is electricity.

Hydrogen electrolyser projects present a significantly higher credit risk to suppliers than a traditional very large Industrial and Commercial (I&C) supply customer due to the embryonic state of the hydrogen industry, projects tending to be thinly capitalised Special Purpose Vehicle (SPVs), technology risk, size of the supply, dependency on the anchor hydrogen offtaker, limited diversification, grant funding arrangements, load concentration, term, and size of delivered unpaid.

There is a discrepancy between the Distribution Connection and Use of System Agreement (DCUSA) and Connection and Use of System Code (CUSC) as to the time it takes to deenergise a customer, in the special case of where a directly connected customer governed under the CUSC, has embedded clients on its private site – referred to in the relevant CUSC text (introduced as CMP254, prior to which non-supplier-paying directly-connected customers could never be disconnected, contrary to the Electricity Act's provisions), as "downstream customers"

In the case of non-payment, to the Supplier, if the primary customer is embedded on a Distribution Network Operator (DNO) network, disconnection by the DNO at the Supplier's request can be relatively prompt, even within 24 hours. Likewise for a simple directly-connected site with no downstream customers, disconnection by the Transmission Owner (TO) at the Suppliers request can, again, be relatively prompt. However, in the case where the directly-connected site does have "downstream customers" (embedded clients on its own private network), potentially unbeknown to the Supplier, CMP254/CUSC text requires various processes of further dialogue; disconnection of the site (of the primary directly-connected site) will be slower in these cases were it hosts downstream customers, so that disconnection of the primary site could take at least an additional seven days.

Since the credit risk for electricity supplied to hydrogen electrolysers may be very considerable versus a large I&C site, this discrepancy between the DCUSA and the CUSC for such sites acts as a barrier in delivering hydrogen electrolyser projects which are transmission connected versus those that are distribution connected.

Why change?

The change will allow a level playing field between the transmission and distribution connected hydrogen electrolysers and will reduce some of the credit risk associated with delivered unpaid supply.

What is the proposer's solution?

The solution would be to disapply paragraphs 3.6.9.7 and 3.6.9.8 in Section 3 of the CUSC where the Non-Embedded Customer (the primary site, not what CUSC calls the "downstream party" embedded as a separate entity on that private site) is a hydrogen electrolyser, so that the extra process for "downstream customers" embedded as a separate entity on that private electrolyser site, does not apply for directly-connected electrolyser sites.

The highlighted text in red shows the proposed additional text to be added to the code

Draft legal text

3.6.9.1 **The Company** shall, to the extent that it may lawfully do so, at the request of the **Supplier**, when the **Supplier** is entitled to have the **Deenergisation** of a **Non-Embedded Customer**, **Connection Site(s)**, carried out, carry out such **Deenergisation** on behalf of and at the cost of the **Supplier** within a reasonable time or, in circumstances of urgency, as soon as is reasonably practicable.

[…]

3.6.9.7 Where the **Non-Embedded Customer's Connection Site(s)** is not a hydrogen electrolyser, a **Non-Embedded Customer** shall provide its **Supplier** on request and as soon as is reasonably practicable with the details of any **Downstream Parties** including (but not limited to) contact names, addresses, email addresses, and telephone numbers.

3.6.9.8 Where the **Non-Embedded Customer's Connection Site(s)** is not a hydrogen electrolyser, ~~P~~prior to a **Supplier** instructing **The Company** to **Deenergise** the Non-Embedded Customer's Connection Site(s) under Paragraph 3.6.9.1:

(a) the **Supplier** shall request the **Non-Embedded Customer** to confirm within 48 hours of such request that the details supplied under Paragraph 3.6.9.7, remain correct and/or provide updated details for any **Downstream Parties**, and where such details had been supplied by the **Non-Embedded Customer** to the **Supplier** within the preceding **10 Business Days**, the **Supplier** may, whilst making this request, in parallel and without delay give notice to arrange the meeting described in (b), below;

(b) where there are **Downstream Parties** (other than **Downstream Parties** that are **Affiliates** of the **Non-Embedded Customer**), the **Supplier** shall, giving not less than 48 hours' notice, arrange a meeting between the **Supplier**, the **Non-Embedded Customer**, those **Downstream Parties** and **The Company** to discuss the impact of the **Deenergisation** and whether an agreement to avoid the **Deenergisation** and resulting impact on those **Downstream Parties** can be reached to the reasonable satisfaction of the **Supplier** (acting reasonably); and

(c) the **Supplier** shall not issue its **Deenergisation** instruction to **The Company** within 72 hours (or such longer period, determined by the **Supplier** from time to time, at their sole discretion, and notified to the attendees of any meeting held under (b)) from the commencement of any meeting held under (b).

Proposer's assessment against CUSC Non-Charging Objectives	
Relevant Objective	**Identified impact**
(a) The efficient discharge by the Licensee of the obligations imposed on it by the Act and the Transmission Licence;	**Neutral** No impact
(b) Facilitating effective competition in the generation and supply of electricity, and (so far as consistent therewith) facilitating such competition in the sale, distribution, and purchase of electricity;	**Positive** Provides consistency with the DCUSA for hydrogen electrolysers. Provides a level playing field for supplying transmission connected hydrogen electrolysers. If not addressed, Suppliers, particularly smaller I&C suppliers, may be unable to participate in the market.
(c) Compliance with the Electricity Regulation and any relevant legally binding decision of the European Commission and/or the Agency *; and	**Neutral** No impact
(d) Promoting efficiency in the implementation and administration of the CUSC arrangements.	**Positive** Very limited implementation required
*The Electricity Regulation referred to in objective (c) 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	**Positive** The change will positively encourage the deployment of transmission connected hydrogen electrolysers which will it turn add demand to the energy system particularly when the system has an excess of renewable electricity verses demand and will provide the ESO with additional levers to manage constraints more efficiently. Positively supports decarbonisation and improves security of supply by reducing the UK's dependency on natural gas imports.

Lower bills than would otherwise be the case	**Positive** The modification reduces the credit requirement of suppliers which would typically come at a cost to hydrogen electrolyser projects.
Benefits for society as a whole	**Positive** Supports the emergence of a new energy industry targeting decarbonisation.
Reduced environmental damage	**Positive** The modification removes a barrier to the deployment of large transmission connected electrolyser projects. This in turn positively supports decarbonisation by displacing natural gas with green hydrogen.
Improved quality of service	**Neutral**

When will this change take place?

Implementation date
10 Business Days after Authority decision

Date decision required by
As soon as possible

Implementation approach
There are no systems or processes that would be impacted by this change. Implementation is therefore minimal.

Proposer's justification for governance route
Governance route: Standard Governance modification to proceed to Code Administrator Consultation

The modification has a fully developed solution.

Interactions

☐Grid Code	☐BSC	☐STC	☐SQSS
☐European Network Codes	☐ EBR Article 18 T&Cs[1]	☐Other modifications	☐Other

[1] 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.

The Proposer does not believe there are any interactions with any other codes or modifications.

Acronyms, key terms and reference material

Acronym / key term	Meaning
BSC	Balancing and Settlement Code
CMP	CUSC Modification Proposal
CUSC	Connection and Use of System Code
DCUSA	Distribution Connection and Use of System Agreement
DNO	Distribution Network Operator
EBR	Electricity Balancing Regulation
HAR	Hydrogen Allocation Rounds
I&C	Industrial and Commercial
SPV	Special Purpose Vehicle
SQSS	Security and Quality of Supply Standards
STC	System Operator Transmission Owner Code
T&Cs	Terms and Conditions
TO	Transmission Owner

Reference material

- CMP254: Addressing discrepancies in disconnection / de-energisation remedies