Public

Final Modification Report

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 site verses an embedded site.

Modification process & timetable

1. **Proposal Form**
   14 October 2024
2. **Code Administrator Consultation**
   29 October 2024 – 19 November 2024
3. **Draft Final Modification Report**
   05 December 2024
4. **Final Modification Report**
   23 December 2024
5. **Implementation**
   10 business days after Ofgem decision

Have 30 minutes? Read the full Final Modification Report
Have 40 minutes? Read the full Final Modification Report and Annexes.

Status summary: This report has been submitted to the Authority for them to decide whether this change should happen.

Panel recommendation: The Panel has recommended unanimously that the Proposer's Original solution is implemented.

This modification is expected to have a: Low impact On Customers, Suppliers and Transmission System Operators

Governance Route	Standard Governance modification proceeding straight to Code Administrator Consultation.	
Who can I talk to about the change?	**Proposer:** Dan Brimelow dan.brimelow@statkraft.com 0207 549 1000	**Code Administrator Contact:** cusc.team@nationalenergyso.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 I&C supply customer due to the embryonic state of the hydrogen industry, projects tending to be thinly capitalised 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 DCUSA and 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 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 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 solution?

Proposer's Solution

The solution has been resubmitted following feedback from the CUSC Panel Meeting on 27 September 2024.

The amended solution would be to disapply paragraphs 3.6.9.7 and 3.6.9.8 of the CUSC for Non-Embedded Customers with Connection Sites connected after [1st January 2025 or such other date determined by the Authority], so that the extra process for "downstream customers" embedded as a separate entity on that site, does not apply for all newly connected sites going forwards irrespective of whether the site is a transmission connected hydrogen electrolyser.

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

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 Save for Non-Embedded Customers with Connection Sites connected after [1st January 2025 or such other date determined by the Authority], 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 Save for Non-Embedded Customers with Connection Sites connected after [1st January 2025 or such other date determined by the Authority], 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).

What is the impact of this change?

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 newly connected supply. 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.	

Code Administrator Consultation Summary

The Code Administrator Consultation was issued on the 29 October 2024 closed on 19 November 2024 and received 2 responses. A summary of the responses can be found in the table below and the full responses can be found in Annex 2.

Code Administrator Consultation Summary	
Question	
Please provide your assessment for the proposed solution against the Applicable Objectives?	One respondent stated that the change would better facilitate ACO's a), b), c) and d). The respondent noted that the current discrepancy acts as a barrier in delivering large projects. The proposed solution protects a small number of legacy and dated use cases, whilst supporting growth in decarbonising the energy system. One respondent stated that the change would better facilitate ACO b). The respondent noted that this will provide consistency with the DCUSA and may facilitate more competition in Supply in some circumstances.
Do you support the proposed implementation approach?	Both respondents support the proposed implementation approach.
Do you have any other comments?	Yes, one respondent had comments on the proposed legal text for CMP441.
Legal text issues raised in the consultation	
One respondent highlighted two issues: • Two terms used within the legal text changes should be in bold as they are defined terms. • The formulation of the implementation date is regarded as not optimal as it includes an absolute date, 25th January 2025. Any mention of an absolute date carries with it the "timing out" risk	

Panel Recommendation Vote

The Panel met on the 13 December 2024 to carry out their recommendation vote.

They assessed whether a change should be made to the CUSC by assessing the proposed change and any alternatives against the Applicable Objectives.

Panel comments on Legal text

Ahead of the vote taking place, the Panel considered the legal text amendments proposed as part of the Code Administrator Consultation and agreed that they were typographical. The changes made can be found in Annex 3.

Vote 1: Does the Original facilitate the Applicable Objectives better than the Baseline?

Panel Member: **Andrew Enzor, User Panel Member**

	Better facilitates AO (a)?	Better facilitates AO (b)?	Better facilitates AO (c)?	Better facilitates AO (d)?	Overall (Y/N)
Original	-	Y	-	-	Y

Voting Statement
The Original solution, as refined and set out in the Draft Final Modification Report, will better facilitate competition by reducing credit risk for suppliers associated with supplying large directly connected customers. I note the clarification in NESO's Code Administrator Consultation on the rationale for the provisions currently in CUSC, and agree with NESO's view that the impact on embedded customers will be minimised by only applying the provisions to new connections from implementation who should be mindful of the updated provisions when entering agreements with the relevant Directly Connected customer.

Panel Member: **Andy Pace, Consumers' Panel Member**

	Better facilitates AO (a)?	Better facilitates AO (b)?	Better facilitates AO (c)?	Better facilitates AO (d)?	Overall (Y/N)
Original	-	Y	-	-	Y

Voting Statement
This mod proposes to reduce the time needed to de-energise a customer connected via a private network at transmission and bring it in line with distribution connected customers. This has been brought forward to reduce the credit risk associated with hydrogen electrolysers. We assess this mod as better meeting applicable objective (b) by facilitating effective competition in the generation and supply of electricity by improving consistency in the treatment of customers between connections at transmission and distribution.

Panel Member: **Binoy Dharsi, User Panel Member**

	Better facilitates AO (a)?	Better facilitates AO (b)?	Better facilitates AO (c)?	Better facilitates AO (d)?	Overall (Y/N)
Original	-	Y	-	-	Y

Voting Statement
This modification aligns the deenergising timing rules so there is consistency with DCUSA (embedded vs non-embedded). It satisfies CUSC objective b. The modification proposal title and the solution are not clearly matched. The modification is not isolated to reducing the credit risk of supplying non-embedded hydrogen it is broader than that as it is technology neutral. It would have been better process to have amended the title of the modification to reflect this. It however does provide a solution better than the baseline from the solution identified.

Panel Member: **Daniel Arrowsmith, NESO Panel Member**

	Better facilitates AO (a)?	Better facilitates AO (b)?	Better facilitates AO (c)?	Better facilitates AO (d)?	Overall (Y/N)
Original	-	Y	-	-	Y
Voting Statement					
NESO are supportive of this modification, as it aligns the CUSC better with the DCUSA and it helps competition in new demand connections.					

Panel Member: **Garth Graham, User Panel Member**

	Better facilitates AO (a)?	Better facilitates AO (b)?	Better facilitates AO (c)?	Better facilitates AO (d)?	Overall (Y/N)
Original	-	Y	-	-	Y
Voting Statement					
Taking into account the Code Administrator Consultation conclusions, the Original proposal has positive merits in terms of Applicable Objective (b) whilst being neutral in terms of the other Applicable Objectives and the Original is, overall, best.					

Panel Member: **Joe Colebrook, User Panel Member**

	Better facilitates AO (a)?	Better facilitates AO (b)?	Better facilitates AO (c)?	Better facilitates AO (d)?	Overall (Y/N)
Original	-	Y	-	-	Y
Voting Statement					
I believe this modification better meets objective b). The Original provides consistency with the DCUSA for newly directly connected supply and may facilitate more competition in Supply in some circumstances, as the Supplier is less exposed to non-					

payment credit risk (above what arises from the Electricity Act) for the site. I am content that the modification will not affect legacy directly connected sites.

Panel Member: **Joseph Dunn, User Panel Member**

	Better facilitates AO (a)?	Better facilitates AO (b)?	Better facilitates AO (c)?	Better facilitates AO (d)?	Overall (Y/N)
Original	-	Y	-	-	Y

Voting Statement
The original brings about consistency between the CUSC and the DCUSA with respect to a difference in credit risk and therefore better facilitates competition.

Panel Member: **Kyran Hanks, User Panel Member**

	Better facilitates AO (a)?	Better facilitates AO (b)?	Better facilitates AO (c)?	Better facilitates AO (d)?	Overall (Y/N)
Original	-	Y	-	-	Y

Voting Statement
Consistency of charging is sensible.

Panel Member: **Paul Jones, User Panel Member**

	Better facilitates AO (a)?	Better facilitates AO (b)?	Better facilitates AO (c)?	Better facilitates AO (d)?	Overall (Y/N)
Original	Y	Y	-	-	Y

Voting Statement
Reduces credit risk associated with supplying transmission connected sites and puts it on an equivalent footing to distribution connected customers.

This should help promote competition in supply if it helps a wider range of suppliers to serve directly connected sites. Removing the existing inconsistency between the treatment of different classes of customers would appear to better allow NESO to meet its regulatory obligations.

Vote 2 – Which option best meets the Applicable Objectives?

Panel Member	Best Option	Which objectives does this option better facilitate? (If baseline not applicable).
Andrew Enzor	Original	b)
Andy Pace	Original	b)
Binoy Dharsi	Original	b)
Daniel Arrowsmith	Original	b)
Garth Graham	Original	b)
Joe Colebrook	Original	b)
Joseph Dunn	Original	b)
Kyran Hanks	Original	b)
Paul Jones	Original	a) and b)

Panel conclusion

The Panel has recommended unanimously that the Proposer's Original solution is implemented.

When will this change take place?

Implementation date

At least 10 business days after a decision has been received by the Authority.

Date decision required by

As soon as practical.

Implementation approach

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

Interactions

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

This modification has no interactions with other industry work 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
EBR	Electricity Balancing Regulation
HAR	Hydrogen Allocation Rounds
SPV	Special Purpose Vehicle

Annexes

Annex	Information
Annex 1	CMP441 Proposal form

Annex 2	Code Administrator Consultation Responses
Annex 3	CMP441 Legal Text with proposed amendments