Modification proposal:	**Connection and Use of System Code (CUSC) CMP303: Improving local circuit charge cost-reflectivity (CMP303)**		
Decision:	The Authority[1] has decided to reject[2] this modification		
Target audience:	National Grid Electricity System Operator (NGESO), Parties to the CUSC, the CUSC Panel and other interested parties		
Date of publication:	03 July 2020	Implementation Date:	N/A

Background

Generators and demand users pay for the ongoing costs of the transmission network via Transmission Network Use of System (TNUoS) charges. TNUoS charges take account of costs for different types of circuits. These include onshore circuits, offshore circuits, alternating current (AC) subsea and high-voltage direct current (HVDC) circuits.

NGESO models circuits to set the locational TNUoS tariffs. Starting from a standard circuit tariff, the 'expansion factor' is used to calculate tariffs for different types and costs of circuits. Mainland onshore circuits use a set of standard expansion factors. CUSC modification CMP213 introduced specific expansion factors for HVDC circuits and AC subsea circuits to recognise their significantly different costs compared with other onshore circuits.[3]

EDF Energy (the 'Proposer') raised CMP303: *Improving local circuit charge cost-reflectivity* for consideration by the CUSC Panel on 27 July 2018. On 18 April 2019, the CUSC Panel submitted a Final Modification Report (FMR) for CMP303 to us. On 11 June 2019, we sent-back the original FMR as we determined we could not properly form an opinion on CMP303 owing to insufficient analysis and because the legal text was not sufficiently robust. In response, the workgroup reconvened and the revised FMR was submitted to us on 11 November 2019.

In December 2019, we published our decision in principle on proposals by Scottish Hydro Electricity Power Distribution (SHEPD) to contribute financially towards a proposed electricity transmission link to Shetland.[4] In this decision, we confirmed that, if we approve the Final Needs Case for the proposed Shetland transmission project, we will approve SHEPD's contribution proposal, subject to it being implemented through an appropriate CUSC modification following the standard processes (and modifications to both SHEPD's distribution licence and the transmission owner's (TO) licence). On 16 January 2020, SHEPD raised CMP337 and CMP338 to give effect to our December decision, which affects the same section of the CUSC as CMP303.

[1] References to the "Authority", "Ofgem", "we" and "our" are used interchangeably in this document. The Authority refers to GEMA, the Gas and Electricity Markets Authority. The Office of Gas and Electricity Markets (Ofgem) supports GEMA in its day to day work.
[2] This document is notice of the reasons for this decision as required by section 49A of the Electricity Act 1989.
[3] CMP213: 'Project TransmiT TNUoS Developments' https://www.nationalgrideso.com/codes/connection-and-use-system-code-cusc/modifications/cmp213-project-transmit-tnuos-developments
[4] https://www.ofgem.gov.uk/system/files/docs/2019/12/20191217_shepd_contribution_decision_accessible.pdf

Alongside this decision to reject CMP303, we are publishing our decision to approve CMPs 337 and 338.[5]

The modification proposal

The Proposer raised CMP303 'to make part of the TNUoS charge more cost-reflective through removal of additional costs from local circuit expansion factors that are incurred beyond the connected, or to-be-connected, generation developers' need.' The Proposer cited the example of an island requiring a one-way connection to allow export from the island. In this case the TO may choose to build a bidirectional link, for example to help secure demand on the island. The Proposer states that costs, beyond the need of the connecting generator may be included in the actual costs used to calculate the expansion factor and hence the relevant local circuit charge, meaning that relevant generators are facing a local circuit charge that is not fully cost-reflective.

The Original Proposal would involve adding a paragraph to the CUSC, with the aim of making clear that, where there are extra costs unrelated to the relevant generators' needs, they should be excluded from the relevant expansion factor. The TO would be responsible for assessment of this additional functionality and the associated incremental costs.

The Proposer considered that the Original Proposal would ensure charges better reflected the costs relevant to the generators' needs and therefore better meet the CUSC Applicable Charging Objectives (ACO) focusing on competition (a) and cost reflectivity (b) in comparison with the current baseline.[6] It also considered that ACO (c) would be better met given the anticipated development of transmission links to islands.

The Workgroup agreed to support nine Workgroup Alternative CUSC Modifications ('WACMs') which proposed a range of approaches to address the defect. They all involved removal of costs of the circuits in calculating the expansion factor. Some of them specified proportions of the convertor costs for HVDC links that should not be included in calculating generator charges. The WACMs are:

- WACM1 – as Original but specifying that 50% of convertor costs for HVDC links are removed.
- WACM2 – as Original but specifying that 100% of convertor costs for HVDC links are removed.
- WACM3 – as Original but with additional HVDC circuit costs removed on a case-by-case basis, based on specific functionality of that link, including reactive power and Black Start capability.

[5] CMPs 337 and 388: *Impact of DNO Contributions on Actual Project Costs* and *New Definition of Cost Adjustment*, see: https://www.ofgem.gov.uk/licences-industry-codes-and-standards/industry-codes/electricity-codes/connection-and-use-system-code-cusc

[6] The ACOs are set out in Standard Condition C5(5) of the Electricity Transmission Licence, see: https://epr.ofgem.gov.uk//Content/Documents/Electricity%20transmission%20full%20set%20of%20consolidated%20standard%20licence%20conditions%20-%20Current%20Version.pdf

- WACM4 – as Original but also including the option for the Authority to determine that certain costs should be excluded from TNUoS charges on the basis that they benefit distribution customers.
- WACM5 – a combination of WACM1 and WACM4.
- WACM6 – a combination of WACM2 and WACM4.
- WACM7 – a combination of WACM3 and WACM4.
- WACM8 – this does not include the Original, but instead calculates costs to be excluded from the expansion factor based on the maximum import needs of the circuit.
- WACM9 – a combination of WACM2 and WACM8.

CUSC Panel[7] recommendation

At the CUSC Panel meeting on 25 October 2019, a majority of the CUSC Panel considered that the CMP303 Original Proposal and WACM3 would better facilitate the ACOs than the baseline. Of the nine votes, four considered the Original Proposal would be the best option, two considered WACM8 would be the best option, while WACM3, WACM5 and the baseline were each considered the best option by one Panel member.

Proposed Solution	Of the 9 Panel Members, how many considered this option to be better than the Baseline?	Of the 9 Panel Members, how many considered this option to best meet the ACOs?
Baseline (no change)	N/A	1
Original Proposal	7	4
WACM1	4	0
WACM2	1	0
WACM3	5	1
WACM4	1	0
WACM5	1	1
WACM6	0	0
WACM7	1	0
WACM8	2	2
WACM9	1	0

The table below summarises the nine Panel Members' assessment of the options against the ACOs. (Neutral assessments are not shown).

[7] The CUSC Panel is established and constituted from time to time pursuant to and in accordance with the section 8 of the CUSC.

Proposed Solution	Applicable Charging Objective									
	A		B		C		D		E	
	+ve	-ve	+ve	-ve	+ve	-ve	+ve	-ve	+ve	-ve
Original Proposal	8	1	6	2	6	1	1	0	0	1
WACM1	5	3	4	4	5	2	1	0	0	1
WACM2	2	6	1	7	2	5	0	1	0	1
WACM3	5	3	5	3	5	2	1	0	0	4
WACM4	2	7	1	7	2	5	1	0	0	3
WACM5	1	7	1	7	2	6	1	0	0	3
WACM6	0	8	0	8	1	7	0	1	0	3
WACM7	1	7	1	7	2	6	1	0	0	3
WACM8	2	7	1	7	2	7	0	1	0	1
WACM9	1	7	1	7	2	7	0	1	0	2

Our decision

We have considered the issues raised by the modification proposal and the revised FMR dated 11 November 2019. We have considered and taken into account the responses to the industry consultations on the modification proposal which are attached to the revised FMR.[8] We have concluded that:

- implementation of the modification proposal will not better facilitate the achievement of the relevant charging objectives of the CUSC.

Reasons for our decision

We consider the Original Proposal and WACM1 will not better facilitate ACO (e) and have a neutral impact on the other ACOs.

We consider WACM3 will not better facilitate ACOs (c) and (e) and has a neutral impact on the other ACOs.

We consider that WACM2, WACM4, WACM5, WACM6, WACM7, WACM8 and WACM9 will not better facilitate ACOs (a), (b), (c) and (e) and have a neutral impact on ACO (d).

(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;

A majority of the members of the CUSC Panel considered that the Original Proposal, WACM1 and WACM3 would better facilitate ACO (a). A majority of Panel members considered that the remaining options would not better facilitate this objective.

[8] CUSC modification proposals, modification reports and representations can be viewed on NGESO's website at https://www.nationalgrideso.com/industry-information/codes/connection-and-use-system-code-cusc

Those Panel members that considered different options would better facilitate this objective highlighted the potential consequential benefits if island generators (those connecting on the island) faced more cost reflective charging. In addition, one Panel member considered that the Original Proposal, WACM1 and WACM3 would improve competition as removing costs not required by the island generators would help bring equivalence with charging for mainland generators.

In contrast, one Panel member considered that all of the options would introduce differential treatment with mainland generators by reducing the cost reflectivity of the marginal signal faced by island generators. Other Panel members that considered different options would not better facilitate this objective also highlighted concerns with lack of cost reflectivity, particularly to the WACMs where all HVDC convertor costs would be excluded (WACMs 2, 6 and 9). One Panel member considered that WACMs 4-7, in lacking provision for the public reporting of cost transfers, would not better facilitate competition.

Our position

We consider that the arguments made relating to competition are largely based on the extent to which the charges could be considered to improve cost reflectivity. We have not been presented with a compelling argument for why any of the options would better facilitate ACO (a). As a consequence, our assessment against this objective is based on that for ACO (b), which focuses on cost reflectivity.

We consider the Original Proposal, WACM1 and WACM3 to be neutral against this objective. We consider that WACM2, WACM4, WACM5, WACM6, WACM7, WACM8 and WACM9 do not better facilitate ACO (b).

(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 in accordance with the STC) incurred by transmission licensees in their transmission businesses and which are compatible with standard condition C26 (Requirements of a connect and manage connection);

A majority of the members of the CUSC Panel considered that the original and WACM3 would better facilitate ACO (b). The Panel was evenly split in its assessment of WACM1, while a majority of Panel members considered that the remaining options would not better facilitate this objective.

Those Panel members that considered different options would better facilitate this objective considered that excluding costs beyond the generators' needs would improve cost reflectivity.

Those Panel members that considered different options would not better facilitate this objective included a broader range of reasons for this view. As for ACO (a), one Panel member considered that all of the options would reduce the cost reflectivity of the marginal signal faced by island generators. The same Panel member did not consider that any defined proportion of convertor costs should be excluded, stating that the revised

FMR appeared to present no new arguments to support the exclusion of these costs compared with the original FMR. That Panel member considered that the CMP213 conclusions did not support the exclusion of these costs. Other Panel members were particularly concerned about the prospect of excluding 100% of convertor costs (WACMs 2, 6 and 9) stating there was no evidence for the complete exclusion of these costs.

Some Panel members made specific comments with respect to the cost reflectivity of the options that would involve distribution customers contributing to the costs of the link (WACMs 4-7). Panel members were concerned about the inclusion of equivalent distribution assets in setting charges for transmission users and the potential for double-counting the exclusion of costs given these options built on existing exclusion approaches. For the options that base exclusions on peak demand (WACMs 8 and 9), Panel members raised additional concerns with the methodology over-allocating costs to demand customers, and the potential precedent of charges being set on the capability of an asset rather than the way in which it is used.

Our position

Since we received the revised FMR, in December 2019, we published our decision in principle for SHEPD to contribute financially towards a proposed electricity transmission link to Shetland. Alongside our decision to reject CMP303, we are publishing our decision to approve CMPs 337 and 338, which give effect to the December decision. In our assessment of CMP337, we concluded that it better facilitates ACO (b) to enable TNUoS charges to be based on costs incurred by TOs. We are concerned that all of the CMP303 proposals have the potential to be duplicative of those modifications and undermine cost reflectivity as a result.

CMP303 attempts to identify link costs unrelated to the needs of island generators, citing an example where bi-directionality may be included within the link, even though the generator only needs the link to export power. The proposal states that such bi-directionality will be of benefit to demand and generally securing supply to an island.

SHEPD proposed CMPs 337 and 338 to give effect to the contribution of distribution customers, based on the benefits a link may bring to island distribution customers. Those proposals base the distribution network operator (DNO) contribution, which would reduce charges for island generators', on the Authority's assessment. CMP303 would instead reduce island generators' charges based on the TO's assessment. In both cases, the functionality of the link beyond the generators' needs is based (at least partially) on benefits to island demand customers.

If the costs that are unrelated to the requirements of generators can be accurately identified, then the original, WACM1 and WACM3 have the potential to improve cost reflectivity. However, we have concerns about how robust the proposed process will be in practice given the legal text is based on the TO's assessment of the additional functionality, but is not prescriptive and with no explicit role for the Authority. This process has the potential to introduce subjectivity and undermine cost reflectivity. In addition, we note the concerns of one Panel member about a reduction in the cost reflectivity of the marginal cost from these three options.

On balance, we consider the Original Proposal, WACM1 and WACM3 to be neutral against ACO (b).

We note that one Panel member did not consider that any defined proportion of convertor costs should be excluded and we agree that the revised FMR appears to present no new arguments, since we sent-back the original FMR, to support the exclusion of these costs. We agree with Panel members' concerns around the options that exclude all convertor costs from the expansion factors (WACMs 2, 6 and 9). Given that convertors will be required for the export of power, it would appear to be detrimental to cost reflectivity if these costs were solely faced by demand customers. We also share concerns that the methodology behind the options that base exclusions on peak demand (WACMs 8 and 9) would over-allocate costs to demand customers. In both cases, we have not been presented with evidence to convince us that such an approach would not have a detrimental effect on cost reflectivity.

For the options involving a contribution from distribution customers (WACMs 4-7), we have concerns that the proposed approach could undermine cost reflectivity, given they are additive to existing proposals for exclusion. That is, any benefits identified by the Original Proposal (or the basis for the other WACMs), have the potential to be counted again in the contribution from distribution customers. We also note that CMP337 presents a robust way of 'netting off' the cost of any contribution of distribution customers to a link.

We consider that WACM2, WACM4, WACM5, WACM6, WACM7, WACM8 and WACM9 do not better facilitate ACO (b).

(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;

A majority of the members of the CUSC Panel considered that the Original Proposal, WACM1 and WACM3 would better facilitate ACO (c). A majority of Panel members considered that the remaining options would not better facilitate this objective.

Panel members that considered different options would better facilitate this objective highlighted the potential new island links as a development in transmission businesses that should be taken account in the CUSC. Panel members that considered different options would not better facilitate this objective generally used the same arguments as against those for ACOs (a) and (b). Some noted impracticalities particularly associated with the proposed mechanisms for implementing WACM3, WACM8 and WACM9.

Our position

We acknowledge that the potential new transmission links to islands may represent an upcoming development in transmission businesses. However, the different options are not equally practicable in the way they seek to do this.

In light of our decision to approve CMPs 337 and 338, which are a response to the same potential development, none of the options appear to offer a more practicable way of recognising this development in the use of system charging methodology.

In addition, some of the WACMs have particular weaknesses when assessed against ACO (c):

- WACM2, WACM6 and WACM9 would exclude all convertor costs from the expansion factors. As noted above, we agree with Panel members' concerns around these options, which would undermine the extent to which they could be considered to 'properly take account' of the potential development of new island links.
- WACM3, WACM8 and WACM9 have barriers regarding the practicality of obtaining the data required for the cost exclusions.
- WACMs 4-7 are additive to existing proposals that have the potential to result in 'double counting' of excluded costs.

We consider the Original Proposal and WACM1 to be neutral against ACO (c). We consider that WACM2, WACM3, WACM4, WACM5, WACM6, WACM7, WACM8 and WACM9 do not better facilitate ACO (c).

(e) promoting efficiency in the implementation and administration of the system charging methodology.

A minority of the members of the CUSC Panel considered that all of the options would not better facilitate ACO (e). One Panel member considered that all of the options, apart from WACM8, introduce subjectivity by relying on the TO to decide on the cost adjustments to be applied, without recourse to a specific methodology. Some Panel members were concerned with the administrative burden on the ESO introduced by WACM3, which would require it to make bespoke calculations based on data that may not be available. For WACMs 4-7, one Panel member was concerned that the proposed legal text doesn't specify that the Authority must make a judgement on the amount to be excluded on a case-by-case basis. For WACMs 8 and 9, one Panel member was concerned that the data required for the calculation for the cost exclusion may not exist.

Our position

We share the concerns raised by the Panel members. We are concerned that the proposed approach of leaving the assessment to the TO would reduce the efficiency of charging methodology. This approach adds an extra step to the process, but (except for WACMs 8 and 9) does not stipulate how that assessment should be undertaken, introducing the potential for subjectivity. We also agree that WACM3 appears to bring a disproportionate burden to the ESO, while the absence of data could potentially undermine the efficiency of WACMs 8 and 9.

We note that the WACMs were introduced in an additive way often without giving adequate consideration to the precise way they would be implemented in the CUSC.

More broadly, given we have now approved CMPs 337 and 338, all of the options would appear to be potentially duplicative and inefficient. We therefore consider that all of the options (Original Proposal and WACMs 1-9) do not better facilitate ACO (e).

Other issues

We sent-back the original FMR owing to shortcomings with both the analysis and the legal text. While the revised FMR has sought to address our concerns, we still feel that the analysis is not as robust as we would expect given the potential impact of some of the WACMs proposed. Nonetheless, now we feel we have sufficient information to allow us to make a decision.

The following feedback on the revised FMR may prove useful for subsequent proposed modifications:

- Some of the proposed legal text in the revised FMR shows changes to legal text compared with earlier iterations of the proposed modification, rather than against the baseline.
- While some additional analysis has been included as an Annex, it lacks commentary to help interpret it and to explain the assumptions behind the figures used. Notably, the impact in the revised analysis (on the Transmission Demand Residual) is qualitatively different to the impact (on the Transmission Generator Residual) in the original FMR, with no explanation for this difference. The analysis also includes some out-of-date assumptions about the prospective contributions to the transmission links from SHEPD customers, despite SHEPD providing the updated information.
- Generally, the updated sections of the revised FMR, produced in response to our send-back letter could be more clearly signalled to identify how the shortcomings had been addressed.
- The code administrator's consultation on the revised FMR was only open for five working days, which offered limited opportunity for parties to engage on the new material given it wasn't very well signposted, particularly as the FMR ran to hundreds of pages.

Decision notice

In accordance with Standard Condition C10 of the Transmission Licence, the Authority has decided that modification proposal CMP303: *Improving local circuit charge cost-reflectivity* should not be made.

Andrew Self
Deputy Director, Electricity Access and Charging – Energy Systems Transition
Signed on behalf of the Authority and authorised for that purpose