Connection and Use of System Code (CUSC) CMP418: Refine the allocation of Dynamic Reactive Compensation Equipment (DRCE) costs at OFTO transfer (418)

Decision:	The Authority[1] has decided to reject[2] this modification proposal
Target audience:	National Energy System Operator (NESO), Parties to the CUSC, the CUSC Panel and other interested parties
Date of publication:	04 August 2025

Background

Transmission connected generators connecting to the National Electricity Transmission System (NETS) are required by the Grid Code (GC)[3] and as a condition of connection, to meet certain obligations to provide reactive power support to help manage voltage on the transmission system. To ensure compliance and to manage their reactive power effectively, many generators install Dynamic Reactive Compensation Equipment (DRCE)[4].

For offshore wind farm generation projects, the current 'generator build' model requires the generator to design, fund, and install both the offshore transmission assets linking the generator to the onshore network, as well the offshore generation assets. As part of the project build DRCE is also often installed. Following a competitive tender process under the Offshore Transmission Owner (OFTO) regime, the offshore generators then transfer the transmission assets to the OFTO and receive a Final Transfer Value (FTV), whereby the offshore generator is reimbursed for its capital expenditure (CAPEX) incurred for developing

[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. This decision is made by or on behalf of GEMA.
[2] This document is notice of the reasons for this decision as required by section 49A of the Electricity Act 1989.
[3] The Gride Code (GC) sets out the technical rules for users connecting to the NETS. Section CC.6.3.2 sets out the minimum reactive power capability that both onshore and offshore generators must meet, including specified power factor ranges under steady state conditions.
[4] DRCE typically includes equipment such as Static Synchronous Compensators (STATCOMs), Static Var Compensators (SVCs), capacitors, or reactors, all of which are used to control reactive power output.

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and constructing the Transmission Assets, including the costs of any DRCE. The OFTO is then responsible for operating (including provision of reactive power support) and maintaining these assets for a specified licence period and recovers its costs via a Tender Revenue Stream (TRS). The TRS is funded largely by the offshore generator via its Transmission Network Use of System (TNUoS) offshore local circuit tariff for its continued use of these assets (including DRCE to maintain compliance with its reactive power obligations).

In contrast, for onshore projects, onshore generators are responsible for building their generation assets (which include DRCE) and retain ownership of these. As the DRCE help manage system voltage, the onshore generator (as asset owner and operator of the DRCE), may recover some costs associated with this support through Obligatory Reactive Power Service (ORPS)[5] payments.

The modification proposal

Ocean Winds (the 'Proposer') raised CUSC Modification Proposal CMP418 (the 'Proposal') on 02 August 2023. CMP418 seeks to modify the charging methodology in the CUSC by changing how costs associated with DRCE are recovered from offshore generators following the transfer of these assets to the OFTO. It does so by proposing to remove the costs of DRCE from the offshore local circuit tariff paid by the generator through their TNUoS charges, and moving them to the onshore tariff element, whereby DRCE costs would instead be recovered through the Transmission Demand Residual (TDR) and ultimately be paid for by end consumers.

The Proposer considers that CMP418 would better facilitate Applicable CUSC Objectives (ACOs) (d) and (h) with a neutral impact on the remaining objectives. The Proposer states that CMP418 would remove a commercial imbalance between offshore and onshore generators whereby offshore generators cover the cost of DRCE through their TNUoS charges but cannot receive compensation for providing reactive power services, as is the case with onshore

[5] ORPS is the provision of varying reactive power output. This refers to the requirement for certain generators to vary their reactive power output to support voltage control near their connection point. Under the Grid Code, all relevant generators must have the capability to both absorb and produce reactive power as needed by the system operator. While ORPS is not procured through a commercial tender process, payments are made to generators via the Default Payment Mechanism to reimburse the operational and maintenance costs of delivering this service.

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generators. They believe that by creating a parity of approach with regards to reactive power compensation costs between onshore and offshore regimes, this will reduce financial barriers for future offshore wind and enable better competition between onshore and offshore generation.

Send Back and Subsequent Workgroups

On 8 May 2024, the CUSC Panel (the 'Panel') submitted a Final Modification Report[6] (FMR) to us for decision in respect of CMP418. On 30 September 2024, the Authority issued a direction to the CUSC Panel (under 8.23.12 of the CUSC) and sent the FMR back[7] directing the CUSC Panel to revise and resubmit the FMR as we were unable to properly form an opinion on the modification proposal. This was on the basis that the information contained in the FMR lacked clarity, specifically in relation to the classification of DRCE assets, how the current methodology for onshore and offshore operates and the extent to which changes were required, as well as the inconsistency and ambiguity in the use of terminology.

The CUSC Panel instructed the CMP418 Workgroup to reconvene and address the issues identified in the send back. Following further Workgroup discussion and a second Code Administrator Consultation (CAC), the Panel submitted a second FMR to the Authority on 11 March 2025[8].

On 14 May 2025, CMP450: 'Introducing the definition of Dynamic Reactive Compensation Equipment (DRCE) in the CUSC'[9] was also raised by the Proposer as a consequential change to ensure that the definition of DRCE was included in the CUSC, should CMP418 be approved. We have also published our decision on CMP450 today.

CUSC Panel[10] recommendation

[6] Final Modification Report CMP418: https://www.neso.energy/document/318061/download
[7] Authority decision to send back CUSC modification proposal 418: Decision to send back CUSC modification proposal 418
[8] Second Final Modification Report: https://www.neso.energy/document/356926/download
[9] CMP450 Proposal Form: https://www.neso.energy/document/355726/download
[10] The CUSC Panel is established and constituted from time to time pursuant to and in accordance with section 8 of the CUSC.

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At the CUSC Panel meeting on 28 February 2025, the Panel by majority agreed that the Proposal would better facilitate the ACOs than the existing provisions in the CUSC (the 'Baseline') and therefore recommended its approval. This was generally on the basis that it was considered that the Proposal would promote competition, align arrangements and provide for equal treatment between onshore and offshore generators. However, a minority of Panel members (two out of nine) did not support the Proposal, highlighting concerns around the negative impacts on end consumers, potential windfall gains for existing generators who have already priced DRCE costs into their Contracts for Difference (CfD)[11] bids and creation of additional distortions in the market. Further details on the views of the Panel members are set out in the second FMR.

Our Decision

We have considered the issues raised by the Proposal, and the second FMR dated 11 March 2025, taking into account the responses to the Workgroup Consultation and Code Administrator Consultations. We have also taken into account the votes of the Workgroup and CUSC Panel on CMP418. We have concluded that:

- Implementation of the Proposal would not better facilitate the achievement of the ACOs[12].
- Directing that the modification be made would not be consistent with our principal objective[13] and statutory duties[14].

[11] A Contract for Difference, or CfD is a contract between a renewable generator and the 'Low Carbon Contracts Company' guaranteeing that the generator will receive a specific price for every unit of electricity they export. These contracts are awarded through a government auction into which generators bid, taking into account their projected revenues and liabilities including TNUoS
[12] As set out in Standard Condition E2 of the Electricity System Operator Licence. Please see: https://www.ofgem.gov.uk/sites/default/files/2024-09/Complete_ESO_Licensing_Direction_and_Licence_Terms_and_Conditions_decision_e-signed_and_dated_FINAL.pdf
[13] Our principal objective is to protect the interests of existing and future consumers.
[14] The Authority's statutory duties are wider than matters which the Panel must take into consideration and are detailed mainly in the Electricity Act 1989 as amended

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Reasons for our decision

We consider that the Proposal will not better facilitate the achievement of the ACOs and will have a negative impact on ACOs (d) and (e) and neutral impact on ACO (h). Therefore, we have decided to reject CMP418 for the reasons set out below.

Our assessment against the ACOs:

(d) '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.'

The Proposer believes that amendments to the charging methodology as part of CMP418 will create a parity of approach with regards to reactive power compensation costs between onshore and offshore generators. They consider that reallocating DRCE costs will lower charges, essentially reducing financial barriers for future offshore wind developers and potentially enabling them to better compete with other sources of generation.

The majority of Panel members expressed the view that the Proposal better facilitated ACO (d). This was generally on the basis that the change would better align arrangements between onshore and offshore generators, ensuring more equal treatment and better facilitating competition through a more level playing field for new offshore generators. However, those Panel members which found the modification to negatively impact ACO (d), highlighted that shifting DRCE costs from offshore generation to consumers will actually further differentiate between onshore and offshore generators (including existing versus future offshore generators) and therefore creates additional distortions in the market.

Our view:

While both onshore and offshore generators install DRCE equipment to meet Grid Code obligations, there are distinct differences between onshore and offshore generation in terms of

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technical design and ownership of the DRCE assets. These differences evidence that onshore and offshore regimes operate differently, and that the Proposal would not better facilitate competition than the baseline, and therefore may result in market distortions.

The onshore network is 'meshed' and provides multiple paths by which electricity could flow between any two points. Whereas the offshore network is made up of lengthy radial (point-to-point) transmission lines typically linking a single offshore generator to the onshore system. This design requires that DRCE is placed onshore as it is considered more efficient, and as such it becomes a transmission asset, unlike onshore where it is retained as a generation asset.

For the onshore network, generators are responsible for building their generation assets but are not permitted to build, upgrade or otherwise conduct works on transmission assets. However, in comparison, the offshore 'generator build' model allows the generator to design, fund, and install both the offshore transmission assets linking the generator to the onshore network, as well the offshore generation assets. This means they have the opportunity to control the cost of the project, and to a degree, the design.

As part of the OFTO transfer process, the initial capital costs incurred by the offshore generator of procuring and installing the DRCE are paid back to them by the OFTO. At this point the DRCE becomes a transmission network asset as generators are not permitted to own transmission assets, and is therefore owned and operated by the OFTO, with the DRCE costs subsequently recovered by the OFTO via the offshore generator's TNUoS charges typically for up to 25 years in line with the expected duration of the OFTO's ownership of the transmission assets. Whereas for onshore, generators incur the capital costs for the DRCE, and they retain ownership as DRCE continues to be a generation asset. Regardless of the technical solution, we note that both offshore and onshore generators ultimately pay for the capital costs of the DRCE.

The Proposal would remove the offshore generators' ongoing liability in relation to the cost of DRCE (by removing the cost of DRCE from their TNUoS charges) and instead recover these costs fully from end consumers. In comparison, onshore generators would remain liable for

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the cost of DRCE as they retain ownership of the assets and remain responsible for their operation. Although onshore generators can provide reactive power capability through ORPS and may receive payments, these are reimbursement for the incremental maintenance and operating costs incurred on the reactive equipment that the onshore generator is responsible for (paid through the Default Payment Mechanism), and there is no guarantee that the capital costs of DRCE would be fully recoverable.

As such, by reducing offshore charges, we believe that this Proposal would not result in equal treatment of onshore and offshore generators in respect of DRCE and could instead lead to offshore generators receiving undue advantage when compared with onshore generators, which would likely distort competition. We do not consider it would improve competition outcomes as compared with the baseline, and we note that whilst the second FMR provides a view of the Proposals impacts in relation to CfD levies and consumer costs, we have received no specific evidence that reducing DRCE costs for offshore generators will result in greater volumes entering the market and potentially improving competition. Therefore, we conclude that CMP418 would result in a negative outcome for ACO (d).

(e) 'that compliance with the Use of System Charging Methodology results in charges that reflect, as far as is reasonably practicable, the costs (excluding any payments between the licensee and Transmission Licensees that are made under and in accordance with the System Operator – Transmission Owner Code (STC)) incurred by Transmission Licensees in their Transmission Businesses, and that are compatible with condition C11 (Requirements of a Connect and Manage Connection)'

The Proposer considers that CMP418 is neutral regarding cost reflectivity and ACO (e). However, the Panel views were mixed. Five Panel members considered the Proposal to be neutral in terms of cost reflectivity, while two considered it to be positive, and the remaining two believed it to be negative.

Where Panel members expressed the view that the modification was positive regarding ACO (e), it was generally on the basis that it would ensure a fair and more consistent commercial environment, as it would prevent offshore generators being adversely impacted from the

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inclusion of the DRCE costs within their local circuit tariff and address a discrepancy that exists under the current arrangements for treatment of DRCE costs. Those Panel members that considered CMP418 was negative in relation ACO (e) highlighted that the costs associated with DRCE are project driven costs (only required due to the offshore generator connecting to the OFTO) and passing these costs through the TDR would dilute cost reflectivity.

Our view:

DRCE is needed to ensure that an individual offshore generator can meet its technical requirements of connection as well as comply with its Grid Code obligations. Therefore, this equipment is only required to facilitate the offshore generator connecting to the system and to support the generator's ongoing operation. As such, we consider it appropriate for the offshore generator to continue to be liable for the associated costs (via its local circuit tariff) as it reflects the impact that the offshore generator's specific connection will likely confer on the transmission network.

CMP418 proposes to remove offshore generators liability in relation to DRCE costs and instead socialise these with full recovery from end consumers. We believe that this change would reduce cost reflectivity as costs would no longer be appropriately allocated, implying that offshore generators were not the party that triggered the build of the equipment, and nor that they require its use for their continued operation and compliance purposes. As such, we conclude that CMP418 would result in a negative outcome for ACO (e).

(h) Promoting efficiency in the implementation and administration of the Use of System Charging Methodology

The Proposer considers that CMP418 would be positive in regard to ACO (h) as it would allow for more equitable allocation of costs that would ensure that OFTOs, onshore, and offshore generators treatment is aligned in respect of mandatory reactive power requirements.

The majority of Panel members (six out of nine) expressed the view that the Proposal was neutral with regard ACO (h). Those Panel members (two out of nine) who considered the

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change positive either provided no rationale or merely stated that they agreed with the Proposer's reasoning. The Panel member which considered the Proposal to be negative provided no explanation as to why.

Our view:

We do not consider that the Proposal would materially improve or impair the efficiency of the operation and administration of the charging methodology. The Proposal does not reduce existing complexity or introduce significant new administrative burdens, and as such, we consider the impact on ACO (h) to be therefore neutral.

Our view on the quantitative analysis:

We have considered the updated quantitative analysis provided within Annex 7 of the second FMR. While the Proposer has presented cost impact analysis suggesting that this change may lead to lower future CfD bid prices and CfD levies, we consider that a clear benefit to consumers has not been demonstrated as there is no certainty that these reductions will materialise, and the scale and timing of any such benefits remain uncertain. It has also been highlighted that CMP418 could give rise to unanticipated benefits, whereby existing generators would have included DRCE costs within CfD bids, and charges would reduce, but the CfD price they are paid cannot be retrospectively adjusted. The analysis indicates a clearly quantifiable increase to end consumers should the Proposal be implemented, suggesting an increase to the TDR element of TNUoS charges of circa £35 million per year, equating to a 1.03% net increase over current levels. Therefore, on balance, we do not consider that this is consistent with the Authority's principal objective to protect the interests of existing and future consumers.

Consistency with the Authority's principal objective and statutory duties

We consider that rejecting the Proposal is consistent with our statutory duties, including our principal objective to protect the interests of existing and future consumers. Further to our assessment under ACO(d), we note that the FMR does not provide adequate evidence to demonstrate that the purported improvements to competition would offer a corresponding

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benefit for consumers if DRCE costs are no longer recovered via offshore generators local tariffs and instead through the TDR which is ultimately paid for by end consumers.

Decision notice

In accordance with Standard Condition E2 of the Electricity System Operator Licence, the Authority has decided that modification proposal *CMP418: Refine the allocation of Dynamic Reactive Compensation Equipment (DRCE) costs at OFTO transfer* should not be made.

James Stone
Head of Electricity Network Charging – Energy Systems Management & Security
Signed on behalf of the Authority and authorised for that purpose

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