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CUSC Modification Proposal Form

CMP457: Revision of the Obligatory Reactive Power Service (ORPS).

Overview: The rising cost of ORPS provision reflects the compensation rate for ORPS, derived many years ago, being reflective of gas prices. The increasing shift away from gas to low carbon generation requires a re-evaluation of compensation principles rather than a simple updating of values. This update to the CUSC will incorporate the output from the ORPS project to introduce a fair and transparent payment methodology.

Modification process & timetable



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: High impact on all Generators that have agreed to be bound by the provisions of the Grid Code.

Proposer's recommendation of governance route	Standard Governance modification with assessment by a Workgroup	
Who can I talk to about the change?	Proposer: Jeremy Taylor, NESO Jeremy.Taylor@neso.energy	Code Administrator Contact: cusc.team@neso.energy

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Contents

What is the issue?	3
Why change?	3
What is the Proposer's solution?	4
Draft legal text.....	4
What is the impact of this change?	4
When will this change take place?	7
Implementation date:.....	7
Date decision required by	7
Implementation approach	7
Proposer's justification for governance route.....	7
Interactions	7
Acronyms, key terms and reference material	7

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What is the issue?

All Generators that have Transmission Entry Capacity on the Transmission Network and signed up to the Grid Code have an obligation to support the System Operator in maintaining a stable and secure Transmission Network by providing reactive power when operating on the transmission network. The rate that they are compensated for their contribution is based on a network predominantly supported by fossil fuelled generation using a number of historical assumptions. National Energy System Operator (NESO) has commissioned an in-depth review of what a revised approach to the compensation for this essential service should be and the output of this work forms the basis of the modification proposal.

Why change?

Historically the production of real power (MW) using traditional centralised power stations with large generators synchronised to the network provided predictable needs and control of the reactive power (MVAR) provision. The compensation for reactive power provision utilised a number of parameters that were reflective of these power generations operational costs, including gas prices, it being the predominate fuel at the time.

Recent years have seen a continued rise in the adoption of renewable power generation and an associated growth in battery storage. The intermittent generation characteristics of these assets output, along with the non-synchronous nature of their generation further contributes to the increased unpredictability of the need for Reactive power provision.

These changing characterises of generation technology has also led to the shift in much of the generation location, this can in itself be an issue as reactive power correction is a local requirement.

It has been the intention of the Obligatory Reactive Project rather than refresh the various parameters in the current methodology, to review the approach to reactive power remuneration and ensure that it was still fit for purpose for the current Network configuration and able to support developments in the Network reactive power requirements for the foreseeable future.

The project aims were to ensure that the Reactive power remuneration for generators is

- Cost reflective for the provider & economic for the consumer
- Fair and transparent

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- Robust and able to support the network development
- Reward all generators fairly for meeting the Grid Code obligations.

The approach of the compensation model aims to compensate the providers proportionally to their operational costs.

What is the Proposer's solution?

The Obligatory Reactive Power Service (ORPS) project identified a number of options with a view to recommending a potential solution that would meet the requirements above. The work of the project has identified that the current single rate model that was appropriate when the majority of generation was of the traditional large synchronous power station, was no longer cost reflective for all the generation types in the current system.

The project has sought to identify alternative approaches and through modelling identified the most appropriate to meet the requirements effectively. The intention is to consult with Industry once the analysis is complete and then to build the final model for remuneration around the preferred solution.

Draft legal text

The legal text hasn't been drafted currently as the solution has not been finalised. It was agreed that there will chargeable elements in the revised model so the change is limited to the non-chargeable sections, specifically the ORPS compensation formulae, (Schedule 3, Appendix 1).

What is the impact of this change?

This proposal will impact all Generators connected to Transmission network, by ensuring the compensation for provision of reactive power and meeting their grid code obligations reflects the operational costs incurred in provision.

By developing a new compensatory model for obligatory reactive power generation as outlined by the project requirements the expectation is that the consumer will benefit from a more economic procurement of the reactive power needs.

Proposer's assessment against CUSC Non-Charging Objectives

Relevant Objective	Identified impact
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(i) The efficient discharge by the Licensee of the obligations imposed on it by the Act and by this licence*;	<p>Positive</p> <p>The NESO as System operator has an obligation to provide a safe and secure Transmission network at a fair cost to the consumer, this modification is focussed at both these objectives.</p>
(ii) 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;	<p>Positive</p> <p>The current single rate ORPS payment has not been revised for an extended period. The historical basis of the calculation and the emerging diverse generation technology types providing ORPS has resulted in disparity between providers costs and remuneration and contributed to disproportionate rises in costs to consumers.</p>
(iii) Compliance with the Electricity Regulation and any relevant legally binding decision of the European Commission and/or the Agency **;	<p>Neutral</p> <p>Interconnectors are in scope.</p>
(iv) Promoting efficiency in the implementation and administration of the CUSC arrangements.	<p>Neutral</p> <p>Revising the methodology won't be inherently more efficient, but should remove obvious errors in the current CUSC model and create a more transparent and cost reflective model that provides a fair compensation to providers and a fair cost for consumers.</p>

* See Electricity System Operator Licence

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***The Electricity Regulation referred to in objective (iii) 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 current approach to Obligatory Reactive Power is no longer representative of the operational environment and has created distortion in the payment to service providers that isn't reflective of the costs incurred or their overall contribution.
Lower bills than would otherwise be the case	Positive The current model is based on a set of historical parameters that are not the main cost drivers in today's operational environment. The accurate allocation of consumer resources to reward the suppliers that provide the service relative to their contribution and costs incurred should result in a more cost-effective model.
Benefits for society as a whole	Neutral No anticipated benefits
Reduced environmental damage	Neutral We do not anticipate significant change in the incentives to protect the environment. The aim is for a transparent and fair remuneration for industry to ensure all to contribute in ORPS provision to minimise the need for some gas generation instruction from NESO to meet reactive power needs.

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Improved quality of service	Neutral No anticipated benefits
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When will this change take place?

Implementation date:

The expectation would be given the changes to ORPS would be a charging change that the modification once approved would be implemented with the new methodology being enabled from 01 April 2027.

Date decision required by

30 September 2026.

Implementation approach

The proposal would be to implement the changes in the CUSC 10 Business days after an OFGEM approval with a view to changes taking effect from the next charging year.

Proposer's justification for governance route

Governance route: Standard Governance modification with assessment by a Workgroup
- It is believed currently there are a number of outstanding questions that require industry input. Some of these may be resolved through the planned engagement by the project including webinars, TCMF (Transmission Charging Methodology Forum) and GCDF (Grid Code Development Forum), discussions but it is seen as important that industry have the opportunity to ask any questions and gain understanding, so the proposal is to provision for Workgroups.

Interactions

☒ CUSC ☐ BSC ☐ STC ☐ SQSS
☐ European Network Codes ☐ EBR Article 18 T&Cs¹ ☐ Other modifications ☐ Other

Currently the belief is that the proposed modification doesn't impact any other code apart from the CUSC.

Acronyms, key terms and reference material

Acronym / key term	Meaning
BSC	Balancing and Settlement Code

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CUSC	Connection and Use of System Code
EBR	Electricity Balancing Regulation
GC	Grid Code
GCDF	Grid Code Development Forum
ORPS	Obligatory Reactive Power Service
MVAR	Mega Volt-Amperes Reactive
MW	Megawatt
SQSS	Security and Quality of Supply Standards
STC	System Operator Transmission Owner Code
TCMF	Transmission Charging Methodology Forum
T&Cs	Terms and Conditions