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Grid Code Modification Proposal Form		
<p>GC0184:</p> <p>Increasing Reactive Power Requirements for PPMs when Operating below Maximum Active Power</p> <p>Overview: This modification proposal is to increase the minimum reactive power requirements for full converter technology connected Power Park Modules when they are operating below their maximum active power output.</p>		<p>Modification process & timetable</p> <ol style="list-style-type: none"> 1 Proposal Form 12 November 2025 2 Workgroup Consultation 17 March 2026 – 16 April 2026 3 Workgroup Report 17 June 2026 4 Code Administrator Consultation 30 June 2026 – 30 July 2026 5 Draft Final Modification Report 19 August 2026 6 Final Modification Report 10 September 2026 7 Implementation 10 Business Days after Decision
<p>Status summary: The Proposer has raised a modification and is seeking a decision from the Panel on the governance route to be taken.</p>		
<p>This modification is expected to have a: Low impact on Generators, Suppliers and Aggregators</p>		
<p>Modification drivers: Efficiency, System Operability</p>		
<p>Proposer's recommendation of governance route</p>	<p>Standard Governance modification with assessment by a Workgroup</p>	
<p>Who can I talk to about the change?</p>	<p>Proposer: John Fradley John.Fradley@neso.energy</p>	<p>Code Administrator Contact: Grid.code@neso.energy</p>

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What is the issue?

The ability to maintain the voltage profile across the network, especially during high voltage situations, is becoming more difficult as traditional synchronous machines are decommissioned. The existing Grid Code requirements for Type C and D PPM allows them to reduce their reactive power capability when operating below 50% of their active power output, this means that they reduce their support to the network. The new full converter technology has the ability to provide reactive services below maximum active power and down to zero MW active power output, but this may not be captured. This modification would ensure that the full reactive power capability is accessible and ensure that each PPM is used efficiently.

Why change?

The ability to maintain the voltage profile across the network, especially during high voltage situations, is becoming more difficult as traditional synchronous machines are decommissioned. With the loss of synchronous plant is also the loss of that plant to provide reactive power services when operating below their maximum active power output. This modification will help to make available a greater quantity of reactive power and ensure that the PPM's are used efficiently.

What is the Proposer's solution?

The Proposer's solution is to update Grid Code clause ECC.6.3.2.4.4, that provides the reactive power requirements for Type C and D Power Park Modules when they are operating below their maximum active power output. The proposal is to create two reactive power capability curves:

- 1) new capability curve for full converter technology,
- 2) use the existing capability curve for all other converter technology.

Within these Grid Code clauses, the existing reactive power capability curves will remain unchanged for non full converter technology, such as DFIG. The updated capability applicable for full converter technology will remove the linear reduction components of the capability curve and make the curve a complete rectangle where the PPM should be able to provide full reactive power capability down to zero active power output.

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What is in and out of scope?

Within scope of this proposal is to update the reactive power requirements for type C and D full converter technology connected PPMs. Out of scope in this proposal is the retrospective application of the changes to plant in existing operation and embedded generators. The market mechanism to procure/utilise the capability is also out of scope.

Draft legal text

Draft legal text for this change can be found in **Annex 01**.

What is the impact of this change?

Type C and D Generator PPM operators would be required to have the reactive capability accessible when they are operating below maximum active power output, and Aggregators may be able to or want participate in reactive power markets when assets are not providing active power services.

Proposer's assessment against Grid Code Objectives	
Relevant Objective	Identified impact
(i) To permit the development, maintenance and operation of an efficient, coordinated and economical system for the transmission of electricity;	Positive Efficient utilisation of the PPMs
(ii) Facilitating effective competition in the generation and supply of electricity (and without limiting the foregoing, to facilitate the national electricity transmission system being made available to persons authorised to supply or generate electricity on terms which neither prevent nor restrict competition in the supply or generation of electricity);	Neutral
(iii) Subject to sub-paragraphs (i) and (ii), to promote the security and efficiency of the electricity generation, transmission and distribution systems in the national electricity transmission system operator area taken as a whole;	Positive Reduce the number of potential new assets that may need to be installed to manage the voltage
(iv) To efficiently discharge the obligations imposed upon the licensee by this license* and to comply with	Neutral

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the Electricity Regulation and any relevant legally binding decisions of the European Commission and/or the Agency; and	
(v) To promote efficiency in the implementation and administration of the Grid Code arrangements	Neutral

* See Electricity System Operator Licence

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 This modification would improve system operation by efficiently utilising the existing PPMs and enabling access to a greater quantity of reactive power when PPMs are operating below maximum active power output.
Lower bills than would otherwise be the case	Positive The modification will lower the cost of procuring additional reactive power services.
Benefits for society as a whole	Positive This modification would reduce the number of additional assets that are required to be installed by utilising the existing plant more efficiently.
Reduced environmental damage	Neutral
Improved quality of service	Neutral

When will this change take place?

Implementation date:

10 Business Days after Authority Decision

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Proposer's justification of Implementation date:

Implementation date chosen is to meet the Clean Power 30 objective that highlighted the need for this modification.

Date decision required by

Q4 2026

Implementation approach

The process to procure and utilise PPM reactive capability will need to be updated once the mandated minimum requirements have been implemented.

Proposer's justification for governance route

Governance route: Standard Governance modification with assessment by a Workgroup
Governance route chosen provides industry stake holders the ability to help steer the modification.

Interactions

<input type="checkbox"/> CUSC	<input type="checkbox"/> BSC	<input type="checkbox"/> STC	<input type="checkbox"/> SQSS
<input type="checkbox"/> European Network Codes	<input type="checkbox"/> EBR Article 18 T&Cs ¹	<input type="checkbox"/> Other modifications	<input type="checkbox"/> Other

No interaction expected.

Industry engagement and feedback

Prior to raising this modification, it was presented at the GCDF and industry stakeholders provided initial feedback and suggestions towards the modification. The main concern was that certain inverter-based technologies would be unable to meet the proposed reactive power requirements due to their operation. Taking this feedback on board, the modification has subsequently been amended to and split into full converter technology and non full converter technology.

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Acronyms, key terms and reference material

Acronym / key term	Meaning
BSC	Balancing and Settlement Code
CUSC	Connection and Use of System Code
EBR	Electricity Balancing Regulation
GC	Grid Code
IBR	Inverter Based Resource
PPM	Power Park Module
SQSS	Security and Quality of Supply Standards
STC	System Operator Transmission Owner Code
T&Cs	Terms and Conditions
PPM	Power Park Module
IBR	Inverter Based Resource

Reference material

- Link to the GCDF session that the modification was initially presented at:
<https://www.neso.energy/document/363451/download>

Annexes

Annex	Information
Annex 01	Draft Legal Text