

Grid Code Modification Proposal Form

GC0166: Introducing new Balancing Programme Parameters for Limited Duration Assets

Overview: Introduction of new parameters for limited duration assets (including Storage and Batteries) to optimise dispatch and planning. This will address the challenges around how such assets are dispatched efficiently and how to best plan for use of such units.

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: Medium impact

Generators, Aggregators, Storage Providers

Modification drivers: Efficiency, New Technologies, System Operability, System Planning, System Security, Transparency

Proposer's recommendation of governance route

Standard Governance modification with assessment by a Workgroup

Who can I talk to about the change?

Proposer:

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ESO**What is the issue?**

A large number of batteries are currently operating in the balancing mechanism. These units can only import or export for a limited time period. Although there are two parameters already defined in the Grid Code and BSC (Max Delivery Period and Max Delivery Volume) these do not cater for bi-directional units. To get around this the ESO use Maximum Import Limits and Maximum Export Limits and the “15 minute rule” which limits how the ESO uses these assets and does not allow us to plan in longer timescales. After extensive discussion with industry, we would like to introduce new parameters that will allow the better use of Limited Duration Assets. Please note – although the current issues have been brought into focus by batteries, we wish to take into account other Storage technology types that will come in the future.

Why change?

Increased economic dispatch of Limited Duration Assets. Improved operational planning allowing the ESO to factor in these units for longer term planning (up to 24 hours ahead).

What is the proposer’s solution?

The introduction of new parameters that will be defined in the Balancing Code section of the Grid Code. There are two major alternatives, and we will explore the best solution as part of the modification process.

Alternative 1: MDO/B

Maximum Delivery Offer / Bid

- amount of energy available for offers/bids
- likely time varying parameter

Alternative 2: SoC + limits (for instructions)

SoC

- state-of-charge at a given point in time plus SoC limits
- bounds within which SoC should remain (similar definitions to MDO/B possible)

It is expected that these parameters will be submitted in the same way as other technical parameters.

Draft legal text

Legal text will be drafted by a Workgroup.

What is the impact of this change?**Proposer’s assessment against Grid Code Objectives**

Relevant Objective	Identified impact
(a) To permit the development, maintenance and operation of an efficient, coordinated and economical system for the transmission of electricity	Positive The new parameters will allow Limited Duration Assets to inform the ESO of energy available over time,

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	instead of the ESO having to derive this from existing parameters that were not intended for this purpose.
(b) 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);	Positive The dispatch of these assets will not be limited by the use of heuristic rules but will be based on the declared capability of the assets.
(c) 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 Allowing Duration Assets to declare their available energy allows for better operational planning by the ESO and better managing of margins and constraints.
(d) To efficiently discharge the obligations imposed upon the licensee by this license and to comply with the Electricity Regulation and any relevant legally binding decisions of the European Commission and/or the Agency; and	Neutral Does not affect ESO obligations.
(e) To promote efficiency in the implementation and administration of the Grid Code arrangements	Neutral The change is not related to administration of the codes.

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	<p>Positive</p> <p>Currently the ESO uses what is called the "15 minute rule" to estimate the energy available and the charging opportunities from batteries. The ESO uses the units declared Maximum Import Limit and Maximum Export Limit and then limits the length of instructions to 15 minutes.</p> <p>This reduces the ability to issue instructions for longer than 15 minutes and gives us no information on the expected future state of these units to allow planning.</p> <p>Improving the quality of data we get from these units will mean we can manage margins and constraints more accurately and efficiently, so improving safety and reliability of the system.</p>

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Lower bills than would otherwise be the case	Positive More quality information allows for greater efficiency in markets so aiding overall consumer benefit.
Benefits for society as a whole	Positive Renewable energy resources contribute directly to the reduction of green-house gases. However, they are intermittent in nature and the ability to store energy is a vital part of the overall energy mix if we are to operate in a safe and efficient manner. This modification allows better management of limited duration assets and so has an overall benefit for society.
Reduced environmental damage	Positive Supports new providers and technologies. Current processes limit the use of limited duration assets.
Improved quality of service	Positive The use of limited duration assets supports greater use of renewable energy resources and therefore, our net-zero ambitions for the future.

When will this change take place?**Implementation date**

10 working days following a decision by Ofgem, should it be approved.

Date decision required by

Q4 2024

Implementation approach

Systems affected will include:

Control Room Systems, Auction Systems, Market Services.

Proposer's justification for governance route

Governance route: Standard Governance modification with assessment by a Workgroup

The changes that will be required to Dynamic Parameters will have impacts on Operational Systems which will need to be discussed in detail by a Workgroup to consider all potential repercussions.

ESO Interactions

- | | | | |
|--|--|---|--------------------------------|
| <input type="checkbox"/> CUSC | <input checked="" 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 |

The ESO will be proposing a modification to the BSC to enable the publication of these Data items on BMRS (Balancing Mechanism Reporting Service).

Acronyms, key terms and reference material

Acronym / key term	Meaning
BSC	Balancing and Settlement Code
BMRS	Balancing Mechanism Reporting Service
CUSC	Connection and Use of System Code
EBR	Electricity Balancing Regulation
GC	Grid Code
STC	System Operator Transmission Owner Code
SQSS	Security and Quality of Supply Standards
T&Cs	Terms and Conditions
BMRS	Balancing Mechanism Reporting Service

Reference material

- [Balancing programme | ESO](#)
- [GCDF- new parameters for Storage \(Summary Presentation 02.08.23\)](#)
- [STC - Panel Meeting - 29.11.2023](#)

¹ If your modification amends any of the clauses mapped out in Annex GR.B of the Governance Rules section of the Grid Code, it will change the Terms & Conditions relating to Balancing Service Providers. The modification will need to follow the process set out in Article 18 of the Electricity Balancing Regulation (EBR – EU Regulation 2017/2195). All Grid Code modifications must be consulted on for 1 month in the Code Administrator Consultation phase, unless they are Urgent modifications which have no impact on EBR Article 18 T&Cs. N.B. This will also satisfy the requirements of the NCER process.