

Grid Code Modification Proposal Form		At what stage is this document in the process?
<h1>GC0140:</h1> <p>Mod Title: Grid Code Sandbox: enabling derogation from certain obligations to support small-scale trials of innovative propositions</p>		<div style="display: flex; flex-direction: column; align-items: center;"> <div style="display: flex; align-items: center; margin-bottom: 5px;"> <div style="border: 1px solid black; border-radius: 5px; padding: 2px 5px; margin-right: 5px;">01</div> <div style="border: 1px solid black; border-radius: 5px; padding: 2px 5px; background-color: #00a651; color: white;">Proposal Form</div> </div> <div style="display: flex; align-items: center; margin-bottom: 5px;"> <div style="border: 1px solid black; border-radius: 5px; padding: 2px 5px; margin-right: 5px;">02</div> <div style="border: 1px solid black; border-radius: 5px; padding: 2px 5px;">Workgroup Consultation</div> </div> <div style="display: flex; align-items: center; margin-bottom: 5px;"> <div style="border: 1px solid black; border-radius: 5px; padding: 2px 5px; margin-right: 5px;">03</div> <div style="border: 1px solid black; border-radius: 5px; padding: 2px 5px;">Workgroup Report</div> </div> <div style="display: flex; align-items: center; margin-bottom: 5px;"> <div style="border: 1px solid black; border-radius: 5px; padding: 2px 5px; margin-right: 5px;">04</div> <div style="border: 1px solid black; border-radius: 5px; padding: 2px 5px;">Code Administrator Consultation</div> </div> <div style="display: flex; align-items: center; margin-bottom: 5px;"> <div style="border: 1px solid black; border-radius: 5px; padding: 2px 5px; margin-right: 5px;">05</div> <div style="border: 1px solid black; border-radius: 5px; padding: 2px 5px;">Draft Grid Code Modification Report</div> </div> <div style="display: flex; align-items: center;"> <div style="border: 1px solid black; border-radius: 5px; padding: 2px 5px; margin-right: 5px;">06</div> <div style="border: 1px solid black; border-radius: 5px; padding: 2px 5px;">Final Grid Code Modification Report</div> </div> </div>
<p>Purpose of Modification:</p> <p>To enable parties to be derogated from specific Grid Code obligations in order to conduct small-scale, time-limited live trials of innovative technologies, connections, products or services.</p>		
	<p>The Proposer recommends that this modification should be:</p> <ul style="list-style-type: none"> Assessed by a Workgroup <p>This modification was raised on <i>11 March 2020</i> and will be presented by the Proposer to the Panel on <i>26 March 2020</i>. The Panel will consider the Proposer's recommendation and determine the appropriate route.</p>	
	<p>High Impact:</p>	
	<p>Medium Impact:</p> <ul style="list-style-type: none"> Grid Code Review Panel Grid Code Parties National Grid ESO (as Code Administrator) Parties facing barriers to innovation 	
	<p>Low Impact</p>	

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Timetable		
The Code Administrator recommends the following timetable:		
Initial consideration by Workgroup	dd month year	
Workgroup Consultation issued to the Industry	dd month year	
Modification concluded by Workgroup	dd month year	
Workgroup Report presented to Panel	dd month year	
Code Administration Consultation Report issued to the Industry	dd month year	
Draft Final Modification Report presented to Panel	dd month year	
Modification Panel decision	dd month year	
Final Modification Report issued the Authority	dd month year	
Decision implemented in Grid Code	dd month year	

Proposer Details

Details of Proposer: (Organisation Name)	Phil Smith National Grid ESO
Capacity in which the Grid Code Modification Proposal is being proposed: (e.g. CUSC Party)	Electricity System Operator
Details of Proposer's Representative: Name: Organisation: Telephone Number: Email Address:	Phil Smith National Grid ESO 07779 560 468 philip.smith4@nationalgrideso.com
Details of Representative's Alternate: Name: Organisation: Telephone Number: Email Address:	Rob Wilson National Grid ESO 07799 656 402 robert.wilson2@nationalgrideso.com
Attachments: 1. Draft legal text (12 pages) 2. Draft process map (1 page)	

Impact on Core Industry Documentation.

Please mark the relevant boxes with an "x" and provide any supporting information

BSC	<input type="checkbox"/>
CUSC	<input type="checkbox"/>
STC	<input type="checkbox"/>
Other	<input type="checkbox"/>

Although there is no direct impact on the above codes, there is alignment with the following modifications that introduce or seek to introduce similar sandbox arrangements:

- BSC modification P362 - approved in August 2018
- CUSC modification CMP341 - raised in March 2020

1 Summary

Glossary of terms used in this document

The Panel	Grid Code Review Panel
CACoP	Code Administrators Code of Practice
NGESO	National Grid Electricity System Operator
ESO	Electricity System Operator
BSC	Balancing and Settlement Code
ELEXON	The Balancing and Settlement Code Company
DCUSA	Distribution Connection and Use of System Agreement

Defect

The Grid Code does not contain appropriate provisions to enable live trials of innovative technologies, connections, products or services. This makes it a barrier to innovation and competition in the generation and supply of electricity.

What

The Grid Code should be updated to enable Grid Code parties to be derogated against specific Grid Code obligations, to enable live testing of innovative technologies, connections, products or services. Derogations should be subject to appropriate eligibility criteria being met. They should be temporary, small-scale and with a focus on testing, learning and implementing outcomes if successful.

Ofgem will act as the coordinating body, receiving and assessing applications as per Principle 14 of the Code Administration Code of Practice (CACoP), 'Code Administrators shall support prospective energy innovators'.

Why

This change will enable innovation and competition, by making it easier for parties to test the viability of new approaches. Where appropriate, proven new developments could then be incorporated into Grid Code via the normal modification process. This new derogation process also ensures compliance with Principle 14 of CACoP. Ultimately these changes support the transformation to a sustainable energy system and the UK's commitment to net zero emission by 2050.

How

The Grid Code should be updated to include a new section under Governance Rules, which will outline the derogation process and new definitions should be added to Glossary & Definitions.

2 Governance

Justification for Normal Procedures

This modification should not be considered suitable for urgency, self-governance or fast-track self-governance.

It does not meet the criteria for urgency, and should not be considered for self-governance, as it's likely to have a material impact on the Grid Code's governance procedures.

Requested Next Steps

This modification should:

- be assessed by a Workgroup

3 Why Change?

Background, Rationale and Benefits

The energy system is changing; Grid Code needs to evolve to support innovation

We are seeing wide-ranging changes across the electricity system. These changes will present huge challenges for the infrastructure and security of energy supplies and are needed to facilitate the transition to a zero-carbon power system and the UK's commitment to net zero emission by 2050.

The Grid Code needs to evolve to make sure that it isn't a barrier to these developments, but instead actively supports innovators who want to test new products, services and business models.

Ofgem introduced an electricity market sandbox in 2017

As part of [Innovation Link](#), Ofgem launched the [energy regulatory sandbox](#) in 2017, as a 'means of experimenting with ways of mitigating barriers where an innovator's plans didn't readily fit with the rulebook, but where there was the prospect of consumer benefit.'

The Ofgem sandbox can provide derogations to certain licence conditions, but not to any specific aspects of Grid Code.

Ofgem invited industry code chairs to adopt the sandbox approach

The energy regulatory sandbox was limited in scope, so in January 2018, Ofgem invited each of the code administrators to raise 'sandbox' modifications to support the project and engaged with several industry code panels.

BSC and DCUSA developed sandbox modifications

In August 2018, Ofgem [approved](#) the BSC mod [P362](#) 'Introducing BSC arrangements to facilitate an electricity market sandbox'.

In November 2019, Ofgem [approved](#) the DCUSA Change Proposal [DCP 345](#) 'Sandbox Application'.

Principle 14 was added to CACoP to support innovation

In September 2018, [Ofgem added Principle 14](#) to the [CACoP](#). It encourages code administrators to develop cross code processes, and identify and facilitate changes to their codes to support Ofgem's innovation activities.

Grid Code doesn't contain sandbox derogation provisions

Currently, there are two options for parties who want to trial innovative projects that aren't compatible with the existing Grid Code, and both have shortcomings:

1. Raise a formal Grid Code modification.
 - Developing a modification is slow and resource intensive for industry and NGENSO and therefore inefficient for a small, time-limited trial. Innovators may not have the funding to wait for regulatory change, so the lengthy process is a barrier.
 - The modification process is intended to introduce permanent changes to the Grid Code, leading to industry-wide change that is applicable to all Grid Code Parties. It would not be suitable to apply a permanent change to all Grid Code parties for a product or service that hasn't been trialled first.
 - It may be uneconomical for non-Grid Code parties to accede to the Grid Code and comply with all of its obligations before they are able to prove whether the concept they are testing is commercially viable.
2. Request a 'Technical Derogation' from Ofgem.
 - The Panel is not involved in the process for 'Technical Derogation Requests' governed by Ofgem and therefore has limited ability to influence it
 - The process can take up to 18 months, which is not suitable for small, time-limited trials.
 - This process was updated in 2017 to incorporate three of the European Network Codes.

Neither of these approaches is suitable for small-scale live trials of innovative technologies and without appropriate provisions, the Grid Code can be a barrier to innovation and competition.

Enabling sandbox derogations will support innovation and competition

Making this change will encourage innovation and competition, by making it easier for parties to test the viability of new technologies or business models.

Where appropriate, proven new developments could then be incorporated into Grid Code via the normal modification process in the future.

Grid Code parties, innovators and consumers will benefit from the greater choice and opportunities that will be available by enabling new and innovative products and services. Ultimately, this supports the transformation to a sustainable energy system and the UK's commitment to net zero emission by 2050.

The change supports Ofgem's Regulatory Sandbox, compliments the BSC and DCUSA sandbox modifications, and aligns with the new Principle 14 of CACoP.

There is also some alignment with principles in the Requirement for Generators (RfG) network code arrangements for 'Emerging Technologies'.

4 Code Specific Matters

Technical Skillsets

Knowledge and/or understanding of the following:

- The Grid Code, including the governance rules
- Ofgem's Innovation Link and the energy regulatory sandbox
- CACoP Principle 14 'Code Administrators shall support prospective energy innovators'
- The types of innovation to which the Grid Code currently presents barriers
- The impact of derogations and trials of innovative projects on the operation of the NETS
- BSC modification P362 'Introducing BSC arrangements to facilitate an electricity market sandbox'
- DCUSA Change Proposal DCP 345 'Sandbox Application'

Reference Documents

Ofgem - Innovation link

<https://www.ofgem.gov.uk/about-us/how-we-engage/innovation-link>

Ofgem - Regulatory Sandbox	https://www.ofgem.gov.uk/publications-and-updates/what-regulatory-sandbox
Ofgem - Innovation Sandbox Service Overview	https://www.ofgem.gov.uk/publications-and-updates/innovation-sandbox-service-overview
Ofgem - Guidance on technical derogation requests	https://www.ofgem.gov.uk/ofgem-publications/125007
Ofgem – Approval of changes to technical derogation process to incorporate 3 European Network Codes	https://www.ofgem.gov.uk/publications-and-updates/decision-changes-guidance-document-technical-derogation-requests
BSC sandbox modification P362	https://www.elexon.co.uk/mod-proposal/p362/
BSC Sandbox Procedure and eligibility criteria	https://www.elexon.co.uk/bsc-and-codes/bsc-related-documents/bsc-sandbox-procedure/
DCUSA Change Proposal DCP 345 'Sandbox Application'	https://www.dcusa.co.uk/event/dcp-345-change-report/
CACoP Principle 14	https://www.ofgem.gov.uk/licences-industry-codes-and-standards/industry-code-governance/code-administration-code-practice-cacop

5 Solution

The proposed modification enables Grid Code parties to be derogated against specific Grid Code obligations, to enable live testing of innovative technologies or business models. Derogations should be subject to appropriate eligibility criteria being met. They should be temporary and small-scale with a focus on testing, learning and implementing outcomes if successful.

High Level Process

The process aims to align with the principles of the BSC sandbox modification P362. The key elements are as follows:

Applications are sent to Ofgem

Ofgem will act as the single point of access to coordinate applications across the industry. Applications may impact on more than one Code, or both Codes and Licenses.

They will assess each application against the sandbox eligibility criteria, and decide whether each application impacts the Grid Code. They will then pass relevant applications to NGENSO Code Administration team.

There is potential to charge the applicant a fee to account for the costs of administering a derogation.

NGESO evaluate each application and report to the Panel	<p>NGESO will evaluate the proposed derogation, consult with industry, and then report to the Panel, including, but not limited to:</p> <ul style="list-style-type: none"> • a summary of consultation responses • assessment of risks, impacts and fees to be paid • assessment of the proposal against eligibility criteria • a transition plan (after the derogation ends)
The Panel makes a recommendation	<p>The Panel will recommend to the Authority whether the derogation should be granted, and whether any conditions should be applied.</p>
Ofgem makes the final decision	<p>The decision on whether to grant the derogation is made by Ofgem. There are also send-back provisions.</p>
The derogation comes into place	<p>Anyone (other than NGENSO) can apply to the electricity market sandbox, including non-Grid Code parties. However, if successful, such parties will have to accede to the Grid Code for the derogation(s) to take effect. Once acceded, the recipient of the derogation will be subject to all Grid Code Obligations except those from which they have received derogation.</p>
Maximum 3 years	<p>The cumulative Derogation and Transition Period will be a maximum of 3 years - the time-period should be the shortest time necessary to test the proposal and a robust Transition Plan will be required.</p>
Derogation expires – transition to BAU	<p>When a derogation expires, the party must transition to BAU either by becoming fully compliant with Grid Code, or by raising and implementing a modification to make the alterations permanent and open to all Grid Code Parties.</p>

The Grid Code sandbox application is not a way of evading the rules of the Grid Code. Applications will be assessed against agreed eligibility criteria which will include how the Sandbox application would better facilitate the Applicable Grid Code Objectives.

Principles

The Grid Code sandbox process should be guided by a set of broad principles that set basic expectations and guidance. This provides a degree of flexibility and allows the Panel to evaluate applications on a case by case basis. The following principles are not exhaustive:

Applications should benefit industry and consumers	Applications to facilitate trials of an identified process improvement and/or innovative approach to current practice are encouraged and should offer identifiable direct or indirect benefits to wider industry and consumers, such as a reduction in time and cost.
Applications meet Grid Code objectives	Sandbox projects should show demonstrable benefit to the better the facilitation of the Applicable Grid Code objectives.
Higher legal requirements such as licence conditions cannot be derogated	Any provisions related to requirements that have originated from outside the CUSC and that have a higher legal standing cannot be derogated in practice. CUSC derogation should have no effect on compliance with the following non-exhaustive list of provisions and requirements: <ul style="list-style-type: none"> (i) any Licence conditions (ii) any other Industry Code (iii) any relevant European Legal requirement where applicable (iv) any relevant UK primary legislation
Derogations that align with wider industry changes may be unsuitable	Where the derogation being requested is materially similar to an area already under consideration as part of a wider industry, Government and/or Ofgem-led review, and would likely conflict and make the derogation invaluable or inoperable, it would not be appropriate to grant the derogation request.

Points for the Workgroup to consider

To develop the proposal, we suggest that the Workgroup to consider the following:

- Which sections of the Grid Code, if any, are unlikely to meet the requirements for derogation in any circumstances and therefore might need to be considered out of scope.
- The market participants that should be able to apply for derogation
- What process, if any, applicants need to go through before formally requesting derogations
- The conditions the Panel should consider when determining whether to grant a derogation (including whether Panel should consult)
- How to ensure the processes and derogated projects are transparent to industry
- How to manage and limit risk to NETS, the Grid Code and other industry participants of derogated projects
- The role NGENSO has in supporting derogation requests
- The transition process from tested/proved derogated projects to full BSC compliance.

6 Impacts & Other Considerations

Who or what is impacted?	What is the impact?
Grid Code Review Panel	The Panel's role and function expands, as it will recommend to the Authority whether to approve each derogation
National Grid ESO <i>(as Code Administrator for the Grid Code)</i>	The Code Administrator will need to implement and administrate parts of the new process. They will consult with industry and report to the Panel on each application.
Ofgem	Ofgem will need to implement new processes.
Innovators	Parties who want to test new ideas will now be able to do so through this new derogation process. These could include existing Grid Code parties and non-Grid Code parties.
Grid Code Parties	Impacted indirectly by the granting of derogations to other market participants
Other Code Administrators	Indirect impact as similar processes are already in place for BSC and DCUSA, and may be in the future for other Industry Codes
TOs and DNOs	TOs and DNOs will be impacted by the trials that this modification enables, and potentially the permanent changes that may result from the trials

Does this modification impact a Significant Code Review (SCR) or other significant industry change projects, if so, how?

None expected

Consumer Impacts

Consumers will benefit from this modification, as it will enable more innovation and more competition. This in turn leads to a more efficient and reliable energy system and potentially lower consumer bills than would otherwise be the case.

7 Relevant Objectives

Impact of the modification on the Applicable Grid Code Objectives:

Relevant Objective	Identified impact
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<p>(a) To permit the development, maintenance and operation of an efficient, coordinated and economical system for the transmission of electricity</p>	<p>Positive</p> <p>This change will enable innovation and competition, leading to reduced time to market, better access to funding for innovators, and better learnings about the future system.</p> <p>Proven new developments may then lead to enduring code changes, enabling a wider range of technologies and opportunities for market participants.</p> <p>The development of new ideas is good for competition and benefits the development, maintenance and operation of an efficient, coordinated and economical system for the transmission of electricity.</p>
<p>(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);</p>	<p>Positive</p> <p>The proposal enables more trials of innovative ideas from more parties, leading to better knowledge of new approaches across the industry. This in turn will result in more innovative ideas being implemented and therefore a more competitive market.</p>
<p>(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;</p>	<p>Positive</p> <p>To operate a secure and efficient electricity system in the future, it is essential that new, innovative approaches are developed. This change enables this progress by helping new and existing parties to test new ideas.</p> <p>As the trials will be on a small scale, the risk to the system is limited.</p>
<p>(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</p>	<p>None</p>

(e) To promote efficiency in the implementation and administration of the Grid Code arrangements	<p>Positive</p> <p>As trials will be on a small scale, they won't have a material impact on the rest of the industry, allowing industry resources to be focused elsewhere.</p> <p>If successful trials lead to enduring code changes, then more information about the solution and any impacts will be known in advance, which will make the modification process more efficient.</p>
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8 Implementation

Implementation of this proposal requires changes to the Grid Code and development of code administration processes to enable NGESO to process sandbox applications.

9 Legal Text

A first draft of legal text is attached and should be developed with the Workgroup. The draft has been amended from the BSC sandbox legal text. It would be worth considering the style of the text to make sure this applies equally well to the Grid Code.

The final text should align with the principles of the BSC and DCUSA sandbox modifications, and Ofgem's energy regulatory sandbox.

10 Recommendations

Proposer's Recommendation to Panel

Panel is asked to:

- Agree that normal governance procedures should apply
- Refer this proposal to a Workgroup for assessment

11 Modification guidance and using this template

Grid Code Development Forum

Prior to raising a formal modification, we encourage Proposer's to bring their modification to the Grid Code Development Forum to gain industry views on the Proposal and enable the modification to be developed prior to being formally submitted.

If you would like more information, please contact The Code Administrator at grid.code@nationalgrideso.com

Code Administrator Support

The Code Administrator is available to help and support Proposers with the drafting of any modifications, including guidance on the completion of this template and the wider modification process.

The Code Administrator offers a service of informally reviewing draft modifications prior to them being formally submitted. This designed to assist individuals writing their modification proposal.

Completing this form

Please complete all sections unless specifically marked for the Code Administrator. Green italic text is provided as guidance and should be removed before submission.