





Grid Code Modification Proposal Form	At what stage is this document in the process?
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GC143:

Mod Title: Last resort disconnection of Embedded Generation

01	Proposal Form
02	Workgroup Consultation
03	Workgroup Report
04	Code Administrator Consultation
05	Draft Grid Code Modification Report
06	Final Grid Code Modification Report

Purpose of Modification: This modification sets out that under emergency conditions and as a last resort the Electricity System Operator (ESO) may instruct a Distribution Network Operator (DNO) to disconnect embedded generators connected to its system. The requirement for this is due to the unprecedented societal changes brought about by the COVID-19 pandemic which has led to demands out-turning up to 20% lower than predicted

	<p>The Proposer recommends that this modification should be:</p> <ul style="list-style-type: none"> be treated as urgent and should proceed as such under a timetable agreed with the Authority <p>This modification was raised on 30 April 2020 and will be presented by the Proposer to the Panel on 1 May 2020. The Panel will consider the Proposer's recommendation and determine the appropriate route.</p>
	<p>High Impact: ESO in operating the system; DNOs in potentially being required to take emergency actions; embedded generators in being disconnected under emergency conditions; consumers in preventing security of supply issues</p>
	<p>Medium Impact Other Grid Code parties not directly impacted by the need to take emergency actions</p>
	<p>Low Impact None</p>

Contents		 Any questions?
1 Summary	4	Code Administrator
2 Governance	4	Contact: Chrissie Brown
3 Why Change?	5	 Christine.brown1@nationalgriseso.com
4 Code Specific Matters	6	 07866794568
5 Solution	6	Proposer: Rob Wilson
6 Impacts & Other Considerations	6	 robert.wilson2@nationalgrideso.com
7 Relevant Objectives	6	 07799 656402
8 Implementation	7	
9 Legal Text	8	
10 Recommendations	Error! Bookmark not defined.	
Timetable		

The Code Administrator recommends the following timetable:

Request for Urgency Received	30 April 2020
Panel consideration of Urgency	1 May 2020
Ofgem decision on Urgency	1 May 2020
Publish Code Administrator Consultation (2 Working Days)	1 May 2020 PM
Code Administrator Consultation closing date	5 May 2020
Draft Final Modification Report issued to Panel and Industry	5 May 2020 after 5 PM
Draft Final Modification Report presented to Panel / Panel Recommendation Vote	6 May 2020
Submit Final Modification Report to Authority	6 May 2020
Authority Decision (1 working day)	7 May 2020
Date of Implementation	7 May 2020

Proposer Details

Details of Proposer: (Organisation Name)	NGESO
Capacity in which the Grid Code Modification Proposal is being proposed: (e.g. CUSC Party)	Licensee
Details of Proposer's Representative: Name: Organisation: Telephone Number: Email Address:	Rob Wilson NGESO 07799 656402 robert.wilson2@nationalgrideso.com
Details of Representative's Alternate: Name: Organisation: Telephone Number: Email Address:	
Attachments (Yes/No): No If Yes, Title and No. of pages of each Attachment:	

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"/>

(Please specify)
None identified.

1 Summary

Glossary of terms used in this document

The Panel	Grid Code Review Panel
ESO	Electricity System Operator
NGESO	National Grid Electricity System Operator
DSO	Distribution System Operators
DNO	Distribution Network Operator
BM	Balancing Mechanism

Defect

At present in the Grid Code while there is a process for the ESO to instruct DNOs to take demand control actions there is not the same detailed ability for the ESO to instruct Distribution System Operators (DSOs) to disconnect embedded generation.

What

Amendments will be made to the Grid Code to clarify the ability of the ESO to do this.

Why

If this change is not made, there is a risk of disruption to security of supply during unprecedented low demand periods caused by the COVID-19 pandemic. This is a rapidly developing situation and could not have been anticipated.

How

The proposed change will set out the ability of the ESO to instruct DNOs to disconnect embedded generation as required in an emergency situation and as a last resort.

2 Governance

Justification for Urgent Procedures

In the Proposer’s view this modification is urgent. It is required to be completed before the Bank Holiday on 8 May which is likely to result in a period of low demand with significant operational risk.

If the modification is not completed there is a significant risk of disruption to security of supply; further, if instructions were given to the DNOs in the last resort to disconnect embedded generation it is unclear if these would be legally binding.

Assessing against Ofgem's urgency criteria, an urgent modification should be linked to an imminent issue or a current issue that if not urgently addressed may cause at least one of the following:

- a. A significant commercial impact on parties, consumers or other stakeholder(s); or
- b. A significant impact on the safety and security of the electricity and/or gas systems;
or
- c. A party to be in breach of any relevant legal requirements.

Table 1 below outlines how each of the criteria are impacted by this proposed change:

Table 1

Urgency Criteria	What issue would be caused should this change not be made?
A significant commercial impact on parties, consumers or other stakeholder(s)	Potential security of supply issue causing significant commercial impact
A significant impact on the safety and security of the electricity and/or gas systems; or	Potential security of supply issue caused by low demand period
A party to be in breach of any relevant legal requirements	If instructed to disconnect embedded generation as a last resort, DNOs left in unclear legal position

Requested Next Steps

This modification should:

- be treated as urgent and should proceed as such under a timetable agreed with the Authority

3 Why Change?

During the COVID-19 pandemic the societal changes required by the need to achieve social distancing have led to demand for electricity falling by up to 20% compared to predicted values. While the ESO is seeking to mitigate the operational risks due to this by establishing a new service for downward flexibility management, as a last resort if all commercially available options through this service and actions in the Balancing Mechanism (BM) have been taken it may be necessary to seek to control embedded generators. Where these generators are not participants in the BM and therefore do not hold connection agreements with the ESO this can only be achieved by instructing the DNOs to do this through the Grid Code.

Currently in the Grid Code the ability of the ESO to make such instructions is ambiguous and would potentially leave DNOs in a position that they would feel exposed them to legal risk; therefore, the proposed changes seek to clarify these arrangements.

4 Code Specific Matters

Technical Skillsets

Familiarity with GB frameworks.

Reference Documents

N/A

5 Solution

The changes proposed will give the ESO the clear ability to instruct DNOs to disconnect embedded generation in an emergency situation. This would only be pursued as a last resort if no further actions were available to the ESO either commercially or in the BM. As part of the solution a sunset clause has been included which will time out the additions to the Grid Code in October 2020 if not further amended by this point.

It is the intention that a more considered solution to the issues identified here will be developed in the meantime, potentially by developing a roughly symmetrical arrangement to the existing demand control conditions contained in section OC6 of the Grid Code.

6 Impacts & Other Considerations

As a last resort, this will mitigate the risk of a security of supply issue which will be of benefit to consumers and all industry participants. It is worth noting though that while generators participating in the BM are compensated for any emergency actions instructed by the ESO, there is no such route available to embedded generators that are not BM participants.

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

No.

Consumer Impacts

If this modification is not implemented quickly the impact on consumers may be disruption to security of supply.

7 Relevant Objectives

Impact of the modification on the Applicable 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	None
(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);	None
(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
(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	None
(e) To promote efficiency in the implementation and administration of the Grid Code arrangements	None

This modification is required as a last resort to avert disruption to security of supply.

8 Implementation

Whilst it is hoped never to use this, implementation of this modification is sought by 7 May 2020 due to the period of low demand that is anticipated over the Bank Holiday weekend commencing 8 May.

A sunset clause has been included in the legal text that will time out at clock change in October 2020. A more enduring solution will be progressed in the meantime.

9 Legal Text

Proposed legal text is as set out below shown as red line mark-up from the current version of the Grid Code.

BC2.6.3 Communication With Network Operators In Emergency Circumstances

The Company will issue **Emergency Instructions** direct to the **Network Operator** at each **Control Centre** in relation to **actions including** special actions **as set out in BC1.7, actions in the categories set out under BC2.9.3.3, and Demand Control actions. Emergency Instructions to a Network Operator will normally be given by telephone (and will include an exchange of operator names). OC6 contains further provisions relating to Demand Control instructions.**

BC2.9.1 Emergency Actions

BC2.9.1.1 In certain circumstances (as determined by **The Company** in its reasonable opinion) it will be necessary, in order to preserve the integrity of the **National Electricity Transmission System** and any synchronously connected **External System**, for **The Company** to issue **Emergency Instructions**. In such circumstances, it may be necessary to depart from normal **Balancing Mechanism** operation in accordance with BC2.7 in issuing **Bid-Offer Acceptances**. **BM Participants** must also comply with the requirements of BC3.

BC2.9.1.4 In the case of a **Network Operator** or an **Externally Interconnected System Operator**, **Emergency Instructions** will be issued to its **Control Centre**.

BC2.9.3.3 Instructions to **Network Operators** relating to the **Operational Day** may include:

(a) a requirement for **Demand** reduction and disconnection or restoration pursuant to OC6;

(b) an instruction to effect a load transfer between **Grid Supply Points**;

(c) an instruction to switch in a **System to Demand Intertrip Scheme**;

(d) an instruction to split a network;

(e) an instruction to disconnect an item of **Plant** or **Apparatus** from the **System**.

(f) until October 25 2020, an instruction requiring a Network Operator to disconnect Embedded Power Stations from their System. For the avoidance of doubt, this includes the disconnection of Embedded Power Station(s) connected to the Network Operator's System which are owned or operated by generators that are not BM Participants. Such an instruction may:

i) **be specific and require the Network Operator to disconnect specified Embedded Power Station(s);**

ii) **be for the Network Operator to disconnect Embedded Power Stations supplied via one or more specified Grid Supply Point(s) with an aggregate Registered Capacity of a specified value; or**

iii) **be for the Network Operator to disconnect Embedded Power Stations supplied via one or more specified Grid Supply Point(s) such that a specified proportion of the aggregate Registered Capacity is disconnected.**

In any such case the Network Operator will not be required to disconnect Embedded Power Stations with an aggregated Registered Capacity greater than that of the Embedded Power Stations supplied via the specified Grid Supply Point(s).

Relevant defined terms: (unchanged, provided for information)

Apparatus *Other than in OC8, means all equipment in which electrical conductors are used, supported or of which they may form a part. In OC8 it means High Voltage electrical circuits forming part of a System on which Safety Precautions may be applied to allow work and/or testing to be carried out on a System.*

Plant *Fixed and movable items used in the generation and/or supply and/or transmission of electricity, other than **Apparatus**.*

Emergency Instruction *An instruction issued by **The Company** in emergency circumstances, pursuant to BC2.9, to the **Control Point** of a **User**. In the case of such instructions applicable to a **BM Unit**, it may require an action or response which is outside the **Dynamic Parameters** or **Other Relevant Data**, and may include an instruction to trip a **Genset**.*

10 Recommendations

Proposer's Recommendation to Panel

Panel is asked to:

- Recommend to Ofgem that this modification should be treated as urgent
- Note the timetable set out above which will form part of the recommendation and which will shorten all timescales and bypass the normal requirements for development by a workgroup