











Final Grid Code Modification Report		At what stage is this document in the process?
<h1>GC0143:</h1> <h2>Mod Title: Last resort disconnection of Embedded Generation</h2>		<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; width: 30px; height: 30px; display: flex; align-items: center; justify-content: center; margin-right: 5px;">01</div> <div style="border: 1px solid black; border-radius: 5px; padding: 2px 5px;">Proposal form</div> </div> <div style="display: flex; align-items: center; margin-bottom: 5px;"> <div style="border: 1px solid black; border-radius: 5px; width: 30px; height: 30px; display: flex; align-items: center; justify-content: center; margin-right: 5px;">02</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; width: 30px; height: 30px; display: flex; align-items: center; justify-content: center; margin-right: 5px;">03</div> <div style="border: 1px solid black; border-radius: 5px; padding: 2px 5px;">Draft Final Grid Code Modification Report</div> </div> <div style="display: flex; align-items: center;"> <div style="border: 1px solid black; border-radius: 5px; width: 30px; height: 30px; display: flex; align-items: center; justify-content: center; margin-right: 5px; background-color: #00a651; color: white;">04</div> <div style="border: 1px solid black; border-radius: 5px; padding: 2px 5px; background-color: #00a651; color: white;">Final Grid Code Modification Report</div> </div> </div>
<p><b>Purpose of Modification:</b> 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>		
	<p>This Final Modification Report has been prepared in accordance with the terms of the Grid Code. An electronic version of this document and all other GC0143 related documentation can be found on the National Grid ESO website via the following link:  <a href="https://www.nationalgrideso.com/industry-information/codes/grid-code-old/modifications/gc0143-last-resort-disconnection-embedded">https://www.nationalgrideso.com/industry-information/codes/grid-code-old/modifications/gc0143-last-resort-disconnection-embedded</a></p> <p>At the Grid Code Review Panel meeting on 06 May 2020, the Panel members, by majority, recommended that the proposal was better than the baseline and that it should be implemented.</p> <p>The purpose of this document is to assist the Authority in making its determination on whether to implement GC0143.</p>	
	<p><b>High Impact:</b> 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><b>Medium Impact</b> Other Grid Code parties not directly impacted by the need to take emergency actions</p>	
	<p><b>Low Impact</b> None</p>	

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## Timetable

### The Authority have approved 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

## 1 About this document

This is the GC0143 Final Modification Report. This document contains the proposed amendments to the Grid Code, the responses to the Code Administrator Consultation which closed on 5 May 2020 and the view of the Grid Code Review Panel on whether this change should be implemented.

GC0143 was proposed by National Grid ESO and was submitted, with a request for the modification to be treated as urgent, to the Grid Code Review Panel (GCRP) for its consideration on 30 April 2020.

The GCRP met at a Special meeting on the 1 May to discuss the Proposal and urgency request. The Panel recommended, by majority, that the modification be treated as urgent.

The Authority determined that the proposal **should be** treated as Urgent and follow the timeline recommended by the GCRP. The letter to the Authority from the GCRP and the letter from the Authority setting out the reasons for urgency is set out in **Annex 1**.

### Code Administrator Consultation Responses

69 responses, including 2 confidential responses, were received to the Code Administrator Consultation. A summary of the responses can be found in Section eleven of this document.

Please note that some responses were received after the deadline and have been included in the submission to the Authority as part of this Final Modification Report for transparency and to ensure they are included in any further work on an enduring solution.

### Grid Code Review Panel view

The Grid Code Review Panel held a meeting on the 6 May 2020 to discuss the responses to the Code Administrator Consultation and carry out their Recommendation Vote.

The Panel noted the considerable amount of responses received and Section 12 of this report outlines the discussion points, actions and next steps.

The Panel members, by majority, recommended that the proposal was better than the baseline (what we have in code today) and that it should be implemented.

## 2 Summary

### Glossary of terms used in this document

The Panel/ GCRP	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.

## 3 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**

<b>Urgency Criteria</b>	<b>What issue would be caused should this change not be made?</b>
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

## Panel recommendation and Authority decision

A special Grid Code Review Panel meeting was held on the 1 May 2020 to discuss the modification and request for urgency. The Panel, by majority, recommended that the modification be treated as urgent. A letter was sent from the Grid Code Review Panel to the Authority, on 1 May 2020, recommending that the modification be treated as urgent. The letter outlines the discussion points in the Panel meeting and the comments made by Panel members on the request for urgency.

On 1 May 2020 the Authority decided that GC0143 should be treated as urgent and follow the timeline recommended by the GCRP. The letter to the Authority and the Authority decision letter can be found in Annex 1 of this Consultation document.

## 4 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.

## 5 Code Specific Matters

### Technical Skillsets

Familiarity with GB frameworks.

### Reference Documents

N/A

## 6 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.

## 7 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.

### Cost

Industry costs	
Resource costs	<b>£58,080</b> – 1 Consultation <ul style="list-style-type: none"> <li>• 1.5 man days effort per consultation response</li> <li>• 64 consultation respondents</li> </ul>
Total Industry Costs	<b>£58,080</b>

## 8 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	Positive

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

## 9 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. NGE SO commits to progressing a more enduring solution following normal industry processes in the meantime.

## 10 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)**. An instruction from **The Company** to the **Network Operator** will be given to commence



reconnection. Reconnection shall not take place until such an instruction has been received and be carried out in accordance with the instruction.

BC2.9.4.1:

Where The Company is unable to satisfy the required System NRAPM or Localised NRAPM by following the process described in BC1.5.5, The Company will issue an Emergency Instruction to exporting BM Units for De-Synchronising on the basis of Bid-Offer Data submitted to The Company in accordance with BC1.4.2(d). **If The Company is still unable to satisfy the required System NRAPM or Localised NRAPM then The Company may issue Emergency Instructions to Network Operator(s) as set out under BC2.9.3.3(f) to disconnect Embedded Power Station(s) from their System.**

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**.

## 11 Code Administrator Consultation: Responses

The Code Administrator Consultation was issued on 01 May 2020 for two Working Days, with a close date of 05 May 2020.

**69 responses were received** (including two confidential responses) A summary of the responses can be found below. The full responses can be found in Annex 2 (parts 1-3)

Most respondents stated that they understand the reasoning behind the modification being raised and the threat to Security of Supply that the current situation (COVID-19) poses for the GB National Electricity Transmission System (NETS).

Whilst there was broad understanding of the issue facing National Grid ESO there were concerns raised around the approach outlined in this modification. Questions have been raised around the approach through urgency and whether there would be unintended consequences to the modification being implemented as a result.

Various concerns were raised regarding the way in which the DNOs would fulfil instructions received from the ESO, and whether the consequences for customers (particularly those for whom generation formed part of a more complex industrial site, or where de-energisation of generation would also mean the cutting off local demand) would form part of the decision-making process.

There was broad support that the defect did need addressing but that it should be done in a more thorough, considered way ahead of implementation. National Grid ESO shared these concerns but were of the opinion that the urgency in putting a last resort tool in place to prevent wider consumer impacts meant that this risk was unavoidable in establishing an immediate solution while needing to be addressed on a more enduring basis.

The themes that have emerged from the Consultation are grouped below:

### **Environmental impacts**

Some respondents outlined the environmental impact should they be instructed by their DNO to disconnect without there being time to complete the action in a considered manner. This could include emissions from the site impacted the environment. Additional concerns were raised around utilities and their need to not be disconnected from the system, this included some water companies and the impact on water supplies.

### **Implementation & transparency**

Points were raised around:

- What visibility the DNOs have and therefore how they would know what to request to disconnect
- What the instruction from the ESO would look like and outline
- How much notice the embedded generator would have to disconnect
- That the order in which disconnection is requested should link to the government carbon net zero targets (or confidence to invest in renewable generation will be impacted) and therefore renewable generation should be considered last
- That the order in which disconnection is requested should be done dependent on how secure the connection is
- Some respondents stated that there needs to be more transparency around what action would be taken ahead of this 'last resort' instruction and that these steps need to be in the public domain.
- It was also highlighted that additional clarity from the DNOs would be of benefit so that embedded generators would be aware of 'what order' they would be requested to disconnect.
- Time to implement contingency plans, some have stated that there is not enough time to get plans in place ahead of 8 May 2020

Requests have been made for:

- Urgent clarification of how disconnection would be implemented by each DNO; including which sites would be disconnected, whether sites with both export and import would be disconnected, whether disconnection would be automatic or manual
- Plans between the DNOs and large users in their region who could be instructed to be put in place so that it is absolutely clear what will be asked of users
- Advance notice of disconnection of at least 30 mins
- The ESO to publish on its website an assessment of the likelihood that the ESO will instruct embedded generators to be disconnected in each network on a day ahead basis

### Compensation & level playing field

Concerns were raised around a level playing field for embedded generators that are not part of the BM. It was noted that Transmission Connected Generators would receive compensation, along with consumers but that embedded generators (not part of the BM) do not have arrangements to receive any compensation should the instruction be enacted.

Concerns were also raised around the fact that this modification has been raised and that its been raised linking to the tier of connection rather than the security of the connection.

### Asset impact and restarting

- Should the disconnection be required without prior notice that this could damage assets and as such incur maintenance and/or repair costs
- Some respondents also highlighted that the restart of some plant would include a site visit and that in the current situation they have concerns around travel and restrictions in place across the UK

### Time taken to raise the change

It was highlighted that the ESO could have raised this change at an earlier date and that they had the opportunity to do so in the lead up to the paper being raised on the 30 April 2020. The ESO would contend that they raised the proposal as soon as the issue was clearly identified in a rapidly developing situation.

### Offers to work with the ESO and new ESO product (Optional Downward Flexibility Management – ODFM)

A couple of respondents stated that they would be open to have discussions with the ESO around what they could do to assist in the current situation.

A new product being offered by the ESO was noted and clarity was request on how this proposed change would interact with the new product.

### Ongoing Grid Code modifications

**GC0133** 'Timely informing of the GB NETS System State condition'

**and GC0109** 'The open, transparent, non-discriminatory and timely publication of the various GB electricity Warnings or Notices or Alerts or Declarations or Instructions or Directions etc., issued by or to the Network Operator(s)'

Some respondents stated that these modifications need to be implemented as soon as possible to aid the transparency around the system state to compliment this proposed change so that industry are aware of the situation at any given time.

### System Defence Plan (SDP) compatibility

It was questioned as to whether this modification is compatible with **GC0127 'EU Code Emergency & Restoration: Requirements resulting from System Defence Plan'** as many embedded generators do not have a CUSC contact.

A number of other considerations for an enduring solution have been highlighted in the consultation responses that will be taken into consideration for the second phase of this piece of work including a response from Elexon on the interaction with the BSC.

## 12 Panel views

At the Grid Code Review Panel meeting on 06 May 2020 the Panel carried out their Recommendation Vote by making an assessment against the Grid Code Objectives.

### Panel discussion ahead of Recommendation Vote

The Panel noted the 69 responses received to the Code Administrator Consultation and the concerns raised within some of them.

They discussed the following:

- The modification and that the proposed change is being made to add clarity to a right the ESO already has in the Grid Code. It was noted that the method of completing the right was being amended and that it was not a new. Some Panel members highlighted that the concerns may have been raised as they think the likelihood of this being used is now higher due to the current circumstances (COVID-19)
- The fact that Transmission Connected assets can also be disconnected under an emergency instruction
- That existing issues within the industry have been highlighted and do need to be addressed but that this was not what this modification was seeking to address in the short term (commercial concerns)
- That all responses need to be considered in the development of an enduring solution that the ESO will be seeking to have in place for Spring 2021 and that its important that stakeholders understand that this will be done
- What process/mitigations should be in place for specific critical sites
- That all responses will be sent with this Final Modification Report to the Authority

They agreed that the following actions should be fulfilled alongside the implementation of this proposed change (should the Authority approve GC0143)

1. The ESO to publish, on the ESO National Grid website, a letter outlining their position around 'last resort'
2. The ESO and DNOs to work on a joint communication around the change
3. The Panel to consider the responses and themes in a more detail at the next Panel meeting
4. The ESO to raise the issue at either a Grid Code Development Forum (GCDF) meeting or other meeting to be set up to start to work up a Proposal for an enduring solution

The Panel members agreed by majority that the Original (this proposed change) is better than the baseline (what we have in the code today) and recommended that it should be implemented.

The Grid Code objectives:

- (a) To permit the development, maintenance and operation of an efficient, coordinated and economical system for the transmission of electricity
- (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);
- (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;
- (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
- (e) To promote efficiency in the implementation and administration of the Grid Code arrangements

**Vote 1: Does the original (this change) facilitate the objectives better than the Baseline (what we have in the code today)?**

Panel Member: Alan Creighton

	Better facilitates GCO (a)	Better facilitates GCO (b)?	Better facilitates GCO (c)?	Better facilitates GCO (d)?	Better facilitates GCO (e)?	Overall (Yes/No)
Original	Neutral	Neutral	Yes	Neutral	Neutral	Yes
<b>Voting Statement</b>						
<p>It is important that these arrangements are in place before 8 May 2020. Network Operators will need to continue to work with NGE SO to develop the detailed arrangements for the practical application of the emergency instructions set out in the consultation legal text so that there is a common understanding with NGE SO of form of the emergency instructions that Network Operators would be able to implement within the timescales that align with their expectations.</p> <p>It is recognised that some stakeholders have concerns about the proposed Grid Code change and work should commence over the summer to develop a more robust enduring solution that addresses, where appropriate, the concerns raised by stakeholders.</p>						

Panel Member: Alastair Frew

	Better facilitates GCO (a)	Better facilitates GCO (b)?	Better facilitates GCO (c)?	Better facilitates GCO (d)?	Better facilitates GCO (e)?	Overall (Yes/No)
Original	No	Neutral	Yes	No	Neutral	Yes
<b>Voting Statement</b>						

Whilst this modification starts to introduce some requirements of Commission Regulation(EU) 2017/2196, a Network Code on Electricity Emergency and Restoration, which parties are legally required to comply with even though these have not been fully detailed in the GB code documents and hence would seem to be positive against Grid Code objective (iv), however on this occasion the proposed method of implementing these requirements by the DNO disconnecting non-BM parties remotely without pre-warning or a request for them to carry out a controlled shutdown, does not meet the efficiency requirements of Grid code objective (iv). Similarly, with Grid code objective (i) there seems to be no coordination if non-BM parties are just disconnected without warning, which again is negative to this objective. Going back to the EU regulations they require the ESO to make a request to the non-BM parties and them to carry it out if its technically possible, not just disconnect them.

The grid code objective which is clearly being met is (iii) as this giving the ESO access to non-BM parties as well as BM generators hence improving system security at times of low system demand, as anticipated during this Friday's bank holiday.

In terms of the consultation responses I am concerned by the number of respondents who are connected to an interruptible Public Electricity Supply and are claiming there are serious safety issues if this supply was lost, which in principle it could be at any time due to an lighting strike or digger operator or other event. Whilst I agree deliberately disconnecting these sites should be avoided it may not be possible due to the nature and location of system requirement and these respondents need to consider their backup arrangements. Similarly, I am concerned by the number of respondents who are claiming with serious environmental issues will caused by disconnection, again this is always a possibility and backup arrangements need to be suitable.

The current proposal as written does allow Network Operator to just disconnect non-BM parties without notification or discussion and I would have preferred that they issued emergency instructions to these non-BM parties, however it is not possible to change the current drafting within the current timescale. I would hope that currently the Network Operators are reviewing all potential non-BM parties to assess their suitability to be disconnected or ability to accept instructions, even just at a high level based on fuel type (whilst I accept this approach might not be fair or equitable given the time limitations it potentially better than nothing). Equally I would hope the Network Operators are assessing consequential demand disconnections cause by the generation disconnections to ensure this does not may the low demand situation worse.

A number of respondents have raised the issue that non-BM parties will be disconnected without compensation and this not equitable as BM parties are paid under these conditions. Whilst on the face of it this does not appear fair it should be noted the current trading arrangements are not equitable as there are different charging regimes for both groups and fuller more detailed review needs to be carried out to charging and compensation. These arrangements are outside the scope of the Grid Code and hence need a separate BSC modification to quickly assess this situation going forward, however this will not be in place before this Friday's bank holiday.

The ESO has indicated there is a significant risk of disruption to security of supply due to exceptionally low demand during Friday's bank holiday which could have significant consequences with the possibility of loss of supplies. It should be noted that the ESO is stating these measures will only be applied as a last resort if they runout of commercial options. Given that if these requirements are activated these will lightly cause significant issues with non-BM parties if they are disconnected the ESO needs

to be transparent and open in keeping all parties informed of any developing situation so they are ready to respond

Overall given the ESO assertion that they may not be able to securely operate the System due to exceptional low demand during Friday’s bank holiday without these measures being in place this modification needs to be implemented, even the sites who are indicating safety risks if they are disconnected it is potentially better if only a few of them come off rather than them all ending up off together.

Going forward there need to be a rapid review of current Emergency Procedures, Commission Regulation 2017/2196, trading arrangements during emergency situations and also GC0132 which if approved will prohibit this “Urgency” approach for this and similar modifications.

Panel Member: Christopher Smith

	Better facilitates GCO (a)	Better facilitates GCO (b)?	Better facilitates GCO (c)?	Better facilitates GCO (d)?	Better facilitates GCO (e)?	Overall (Yes/No)
Original	Neutral	Neutral	Yes	Neutral	Neutral	Yes
<b>Voting Statement</b>						
The modification provides clarification to existing grid code requirements. Given the significant feedback it is important that these are given further consideration for an enduring solution.						

Panel Member: Damian Jackman

	Better facilitates GCO (a)	Better facilitates GCO (b)?	Better facilitates GCO (c)?	Better facilitates GCO (d)?	Better facilitates GCO (e)?	Overall (Yes/No)
Original	Neutral	No	Yes	Neutral	Neutral	Yes
<b>Voting Statement</b>						
<p>The need for the ESO and DNOs to recognise the ability to issue Emergency Instructions (EI) to disconnect generators to maintain system security is not disputed and that this modification provides further clarity on that ability is welcome. However, this modification (accompanied by the weekly updates given by the ESO, the need for the new ODFM product and the supporting text in Section 3) give the strong impression that this ability - whilst always a last resort - could soon need to be exercised more frequently than 'only emergency use' implies and this modification does not go into any detail in to how the risk of unintended consequences will be avoided or how it will be practically implemented by the ESO and DNOs. In other words, it provides clarity on a power without detailing the long-standing questions on how that power shall be exercised (questions which up to now, were only hypothetical).</p> <p>Although I have not had time to review all the consultation responses comprehensively, it's clear many touch on the same issues. In summary, I see three areas where the Authority now needs to ensure the ESO and DNOs take action to minimise risks of this exercising this power on a large scale and if needed, over a prolonged period (even as a last resort):</p> <p><b>1 – Avoid Unintended Consequences:</b>                      Clear controls need to be established by the DNOs to define:                      -A hierarchy of generators - shared with Ofgem (and potentially stakeholders) - that will be ‘selected’ by the ESO and DNOs in a non-discriminatory way, to reduce output or</p>						

disconnected (with all generators taken off once, before any site is then taken off again). Making this list public would go a long way towards transparency and avoid certain 'easy targets' being repeatedly selected which would be clearly discriminatory.

-A schedule of excluded generators whose uncontrolled disconnection - either frequently, requiring site attendance or for a sustained period - could create a short-term risk to the public or environment (e.g. water treatment works, compensation flow hydro generators) or who are excluded by not having CUSC contracts with the ESO (i.e who are outside the scope of the System Defence Plan dated 20th Dec 2019. Note – if a revision to that System Defence Plan to include generators without CUSC contracts then the ESO must abide by the statutory 30 day consultation period and submit the revised plan to Ofgem for approval.)

-Methods of control; how EIs will be issued, acted upon and how it is clear DNOs know when generation can reconnect (particularly in light of uncontrolled reconnection of demand on Aug 9th. Ofgem should consider approving GC0133 to help DNOs prepare for reconnection)

- I note that the legal text refers to 'Registered Capacity' rather than real time MW output; emergency instructions that simply result in disconnection of generators that are not generating will be to no benefit, yet with the text as it stands that 'no consequence' loophole is still available for a DNO to take.

## **2- Ensure Transparency**

ESO Transparency is essential for market participants to have confidence that this power will not be abused and used only as a last resort. Controls the Authority could consider include:

-Amending the legal text to the effect that EIs would only be issued after all reasonable commercial options were exhausted. The DNO and ESO representatives at the GCRP stated that this would add complications and risk tying the ESO's hands in an emergency. The omission of this text undermines the Proposer's assertions that this is a last resort measure which is why I have scored AO2 as Negative.

-Implementing GC modifications (GC133 – System State) and GC109 – would see 'pre-event' (GC0133) and 'post-event' (GC0109) publishing of the data on BMRS and would go a long way to making clear when emergency actions were likely or had been taken

-Reports by the ESO summarising the issuing of any Emergency Instructions – either weekly or after each event

## **3- Commercial**

There is a high risk that this clarification simply takes the pressure of the ESO to find commercial routes to obtain footroom.

-The sunset clause should align with the ending of the ODFM service; the later sunset clause cannot be justified if the ODFM service is not required (and it is not clear why a sunset clause is needed if this is just a clarification)

-Reports by the ESO following the issuing of EIs should detail all commercial options that were explored (and reasons why not taken) to avoid EIs being issued.

-The ODFM and this modification cannot be considered as the starting point for future modifications to address the need for more system footroom



The hurried nature of this modification is hard to understand given that this issue was known about 8 weeks ago and that the ESO are on record saying they have all the necessary procedures in place. The Authority should note these circumstances in their decision and need for the regulated parties to now introduce the necessary controls."

Panel Member: Guy Nicholson

	Better facilitates GCO (a)	Better facilitates GCO (b)?	Better facilitates GCO (c)?	Better facilitates GCO (d)?	Better facilitates GCO (e)?	Overall (Yes/No)
Original	No	No	No	Neutral	No	No
<b>Voting Statement</b>						
<p>Under B2.9 The Company can issue Emergency Instructions which are unlimited. This mod GC0143 adds an additional example of an Emergency Instruction and includes a sunset clause to October 2020. The Company should have clear unfettered options to issue Emergency Instructions as required and which it must justify afterwards, demonstrating that all other available commercial channels had been exhausted. If any change is needed to B2.9, it is to simplify and clarify. There should be no doubt that Emergency Instructions will be followed. This mod (including its sunset clause) risks creating a view that only specific actions listed in B2.9 are allowed Emergency Instructions, which leads to the risk that future Emergency Instructions can be questioned, reviewed, queried or checked before being implemented, which is a dangerous precedent.</p>						

Panel Member: Joe Underwood

	Better facilitates GCO (a)	Better facilitates GCO (b)?	Better facilitates GCO (c)?	Better facilitates GCO (d)?	Better facilitates GCO (e)?	Overall (Yes/No)
Original	Neutral	No	Yes	Neutral	Neutral	Yes
<b>Voting Statement</b>						
<p>I agree that GC0143 is necessary in order to enable the ESO to properly manage the system in an emergency situation. However, this issue should have been identified much sooner (as highlighted in various CAC responses). Further, there are numerous and significant issues that need addressing should this modification be approved.</p> <p>Parties need to know how the process will work in practice. This includes notice to instructed parties, restart instructions, and system warnings. Many DGs will attempt to reconnect to the system (as their contracts state) in the event they trip off the system. It is therefore vital that there is full transparency should this action be utilised with notice to all industry regarding the state of the system in the build up to a disconnection event, as well as notice that an event is to take place, is taking place, and has taken place. Clarity around restart instructions is also necessary.</p> <p>Further, it is not clear whether the ESO/DNOs know which plants are running at a certain time and whether that plant is either able to disconnect, or already providing a service to the system. It has been highlighted in many CAC responses that disconnecting some stations would cause serious unintended consequences. It is therefore vital that the ESO and DNOs are aware of this and avoid the disconnection of these plant, as well as publishing the process which they intend to follow upon a last resort event. This includes BM, other ancillary services and switching off importing interconnectors.</p>						

I would encourage the ESO to raise a follow-up modification which looks in more detail at an enduring solution as soon as practicable.

Further, it is concerning that some smaller parties who are not parties to the Grid Code are unaware of this modification and found out through word of mouth. We encourage the ESO to make every effort to distribute information regarding GC0143, and all future changes affecting these parties.

I also note that the SSE response highlights a potential issue with EU law. I encourage Ofgem to investigate this as a matter of urgency to determine if this change would be proceeded by EU law.

Due to the tight timescales, there are likely issues which need addressing which are not listed in this voting statement. There are many listed in the numerous consultation responses and I hope the ESO will answer these questions and address the concerns raised as soon as possible.

Panel Member: Robert Longden

	Better facilitates GCO (a)	Better facilitates GCO (b)?	Better facilitates GCO (c)?	Better facilitates GCO (d)?	Better facilitates GCO (e)?	Overall (Yes/No)
Original	Neutral	Neutral	Yes	Neutral	Neutral	Yes
<b>Voting Statement</b>						
GC0143 provides the necessary clarification to allow the ESO and DNOs to implement emergency instructions effectively, in the short to medium term. The process of raising the modification has illustrated long standing stakeholder concerns regarding the area of EIs. These need to be fully addressed by any process which seeks to put in place enduring arrangements to replace the time limited modification GC0143.						

Panel Member: Rob Wilson

	Better facilitates GCO (a)	Better facilitates GCO (b)?	Better facilitates GCO (c)?	Better facilitates GCO (d)?	Better facilitates GCO (e)?	Overall (Yes/No)
Original	Neutral	Neutral	Yes	Neutral	Yes	Yes
<b>Voting Statement</b>						
This modification is necessary to clarify the existing ability of the ESO to require DNOs to disconnect embedded generators under an emergency instruction and to set out in more detail the structure of how such instructions could be made. As is the case at present and with any emergency instruction, this would only be used as a last resort and to avoid further consequences but is necessary as a prudent final measure to ensure continued system security. The ESO commits to following up this modification with an enduring solution which will also take account of the feedback received from stakeholders in the process to date.						

Panel Member: Richard Woodward (Alternate)

	Better facilitates GCO (a)	Better facilitates GCO (b)?	Better facilitates GCO (c)?	Better facilitates GCO (d)?	Better facilitates GCO (e)?	Overall (Yes/No)
Original	Neutral	Neutral	Yes	Neutral	Neutral	Yes
<b>Voting Statement</b>						

We understand the need for this modification given the unparalleled circumstances our society is currently facing, and the challenges that it presents to operating the NETS. We are sympathetic with the many responses which cited operational concerns which could occur following an instruction of this type (albeit largely related to the underlying provision, not this modification). Security of supply is the primary driver for decision-making in emergency circumstances though - a nationwide blackout is the worst outcome for everyone in this situation. We trust that users, in coordination with their respective DNO/DSO, have already made provision to mitigate any risks of adverse environmental impacts which might have otherwise resulted from emergency actions. We expect the ESO to roll out enhanced communication to the industry for if/when these instructions are used. Furthermore, the ESO should be seeking to propose a more progressive approach to manage this situation at the earliest opportunity (certainly in advance of the sunset clause date inserted by this modification).

Panel Member: Steve Cox

	Better facilitates GCO (a)	Better facilitates GCO (b)?	Better facilitates GCO (c)?	Better facilitates GCO (d)?	Better facilitates GCO (e)?	Overall (Yes/No)
Original	Neutral	Neutral	Yes	Neutral	Neutral	Yes
<b>Voting Statement</b>						
The change is required to enable DNOs to act promptly if instructed by the ESO and disconnect generation to secure the system.						

**Vote 2: Which option is the best?**

Panel Member	BEST Option?
Alan Creighton	Original
Alastair Frew	Original
Christopher Smith	Original
Damian Jackman	Original
Guy Nicholson	Baseline
Joe Underwood	Original
Robert Longden	Original
Rob Wilson	Original
Richard Woodward (Alternate)	Original
Steve Cox	Original

The Grid Code Review Panel therefore recommended by majority and that this change should be implemented.

**Annex 1: Urgency letters**

These can be located in the annex zip folder labelled Annex 1.

**Annex 2: Code Administrator Consultation responses**

These can be located in the annex zip folder labelled: Annex 2 Part 1, Annex 2 Part 2 & Annex 3 Part 3