

Workgroup Report

GC0161: Changes to OC6 to allow for site protection

Overview: The modification aims through minor alterations to OC6 to allow sites to be protected in the event of an operational situation where there is a need to reduce National Demand.

Modification process & timetable



Have 5 minutes? Read our [Executive summary](#)

Have 20 minutes? Read the full [Workgroup Report](#)

Have 30 minutes? Read the full Workgroup Report and Annexes.

Status summary: The Workgroup have finalised the proposer's solution. They are now seeking approval from the Panel that the Workgroup has met their Terms of Reference and can proceed to Code Administrator Consultation.

This modification is expected to have a: High impact
Distribution Network Operators and Customers

Modification drivers: Supply security

Governance route Urgent modification proceeding under a timetable agreed by the Authority

Who can I talk to about the change?
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Executive summary

Under Grid Code OC6, the ESO can instruct Distribution Network Operators (DNOs) to utilise OC6 Demand Control in order to reduce demand on the transmission system. The Grid Code explicitly states that in such circumstances Electricity Supply Emergency Code (ESEC) defined protection, against a supply interruption, cannot be given to critical sites, and DNOs face being non-compliant with the Grid Code in the event they choose to protect sites according to ESEC. The proposal is to remove a barrier preventing the use of ESEC protection of critical sites when implementing Demand Control under OC6.5.3.

What is the solution and when will it come into effect?

Proposer's solution: The solution will amend wording within OC6 of the Grid Code to remove a barrier preventing protection of critical sites when implementing Demand Control under OC6.5.3.

Implementation date: Ten working days after the Authority Decision (please note that Workgroup consultation was undertaken on the basis of implementation one day after Authority Decision). An Authority decision is required by Mid-September 2023.

What is the impact if this change is made?

This modification will have an impact on DNOs and customers. Along with changes to the Distribution Code, it will allow, but not obligate, DNOs to utilise the Electricity Supply Emergency Code (ESEC) protected site list where it is technically feasible to do so for OC6.5.3 Demand Control purposes.

Interactions

This modification will require consequential modifications to be made to the Distribution Code as DNOs may need to revise their demand disconnection plans.

What is the issue?

Operating Code 6 (OC6) is one of the tools which enables the Electricity System Operator (ESO) to reduce demand on the National Electricity Transmission System to either avoid or relieve operational problems. It is designed to be used at no or short notice.

There has been an increased focus on the tools the ESO has available to reduce demand to ensure the GB Electricity System remains balanced in the event of an operational situation where there is a need to reduce National Demand. Under OC6 no protection can be afforded to critical sites

OC6 text states that *“No such protection can be given in relation to Demand Control under the Grid Code.”*

By having this obligation in place, the Grid Code prevents protection of critical sites.

Why change?

Government wants to align Demand Control products following the Electricity Shortfall Prioritisation Review (ESPR). Current Grid Code wording does not allow site protection and DNOs currently run the risk of being non-compliant with the Grid Code if protection is afforded to sites when implementing Demand Control via an OC6 instruction. This modification is to remove the prevention of site protection when implementing an OC6.5.3 instruction.

What is the solution?

The solution will amend wording within Grid Code OC6.1.5 which, currently, obligates that no protection can be given to those specific sites that have, according to ESEC, been designated as ‘protected’. The solution also proposes the addition of a clause in OC6.5.3 to refer to the pre-designation of protected sites via the ESEC.

Note: the existing clause OC6.5.3(e) has been moved to OC6.5.3(f) in the draft legal text.

OC6.1.5 The Electricity Supply Emergency Code as reviewed and published from time to time by the appropriate government department for energy emergencies provides that in certain circumstances consumers are given a certain degree of "protection" when rota disconnections are implemented pursuant to a direction under the Energy Act 1976. ~~No such protection can be given in relation to Demand Control under the Grid Code. No such protection can be given in relation to Demand Control under the Grid Code, except in relation to those Demand Disconnection stages referred to in OC6.5.3(a) and where such protection is technically feasible, although, even in these situations, protection cannot be guaranteed.~~

To invoke the Electricity Supply Emergency Code the Secretary of State will issue direction(s) to all **Network Operators** affected, exercising emergency powers under the Electricity Act 1989 or by virtue of an Order in Council under the Energy Act 1976. Following the issuance of such direction, **The Company** will act to coordinate the implementation of an agreed schedule of rota disconnections across all affected **Network Operators'** licence area(s) and to disseminate any information as necessary throughout the period of the emergency in accordance with the instructions **The Company** receives from the Secretary of State or those authorised on their behalf for this purpose.

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OC6.5.3 (a) Whether a **National Electricity Transmission System Warning - High Risk of Demand Reduction** or **National Electricity Transmission System Warning - Demand Control Imminent** has been issued or not:

- (i) provided the instruction relates to not more than 20 per cent of its total **Demand** (measured at the time the **Demand** reduction is required); and
- (ii) if the instruction relates to less than 20 per cent of its total **Demand**, is in
 - two voltage reduction stages of between 2 and 4 percent, each of which can reasonably be expected to deliver around 1.5 percent **Demand** reduction; and
 - up to three **Demand Disconnection** stages, each of which can reasonably be expected to deliver between four and six percent **Demand** reduction,

each **Network Operator** will abide by the instructions of **The Company**, which should specify whether a voltage reduction or **Demand Disconnection** stage is required; or
- (iii) if the instruction relates to less than 20 per cent of its total **Demand**, is in four **Demand Disconnection** stages each of which can reasonably be expected to deliver between four and six per cent **Demand** reduction,

each **Network Operator** will abide by the instructions of **The Company** with regard to Demand reduction under OC6.5 without delay.

- (b) The **Demand** reduction must be achieved within the **Network Operator's System** as far as possible uniformly across all **Grid Supply Points** (unless otherwise specified in the **National Electricity Transmission System Warning - High Risk of Demand Reduction**) either by **Customer** voltage reduction or by **Demand Disconnection**.
- (c) **Demand Control** initiated by voltage reduction shall be initiated as soon as possible but in any event no longer than two minutes from the instruction being received from **The Company**, and completed within 10 minutes of the instruction being received from **The Company**.
- (d) **Demand Control** initiated by **Demand Disconnection** shall be initiated as soon as possible but in any event no longer than two minutes from the instruction being received from **The Company**, and completed within five minutes of the instruction being received from **The Company**.
- (e) Where **Demand Control** is initiated by **Demand Disconnection**, in relation to those **Demand Disconnection** stages referred to in OC6.5.3(a) protection may be given where technically feasible, to pre-designated protected sites in instances where **Demand Control** is implemented on the instruction of **The Company** in accordance with the provisions in OC6.5. The list of pre-designated protected sites is compiled and kept up to date by **Network Operators** in accordance with the terms set out in the **Electricity Supply Emergency Code**.

Workgroup considerations

The Workgroup convened four times to discuss the issue, detail the scope of the defect, devise potential solutions, and assess the proposal in terms of the Applicable Code Objectives.

Consideration of the proposer's solution

The original proposal covered changes to OC6 to allow for the use of the protected site list (as separately determined, according to the ESEC) to be used when applying OC6 demand disconnection by DNOs. The Workgroup noted that only the utilisation of the protected site list by DNOs where technically feasible (when applying demand disconnection elements of OC6 Demand Control) should be covered in the scope of this modification to ensure the approved urgent timescales are met.

The ESO advised the Workgroup that demand disconnection rotation, as set out in OC6, will be considered in a subsequent Grid Code modification proposal, as part of a suite of modifications to follow this initial (GC0161) proposed modification to OC6.

When the modification proposal was originally raised the title was 'Changes to OC6 to allow for site protection and demand disconnect rotation'. As there are plans for future modification proposals that will address demand disconnection rotation, the Workgroup requested a change in the title to 'Changes to OC6 to allow for site protection'. This was approved at the Grid Code Review Panel on 29 June 2023.

The suite of modifications are displayed in the table below.

GC Mod	Purpose	Proposed GC Changes	Benefit
GC0161	To remove wording in OC6 that prevents the protection of particular consumers or not to unduly discriminate/ prefer particular customers.	Remove relevant text in OC6.1.5 and OC6.2.1	Will allow the DNOs, where technically possible, to use the 5% demand blocks currently utilised for ESEC for OC6 Demand Control (OC6.5.3), therefore ensure the protection of key sites.
GC016X (in draft)	To clarify/amend the operational timings for the delivery of the additional demand reduction above 20% under OC6.5	Additional text specifying when each additional 5% demand can be delivered above 20% (i.e. 5mins for each additional 5% demand block)	Will allow the DNOs, where technically possible, to use the 5% demand blocks currently utilised for ESEC for OC6 Demand Control above 20% (OC6.5.4 & 5), therefore ensure the protection of key sites.
GC01XX (in draft)	Introduce a new demand reduction tool into OC6 for margin shortfall scenario, with [6/24] hours notice .	Additional section under OC6 (OC6.9) detailing the margins shortfall procedure with [6/24] hours notice.	Will allow the DNOs, where technically possible, to use the 5% demand blocks currently utilised for ESEC for OC6 Demand Control, therefore ensure the protection of key sites and allow rotation of the Demand Blocks.

Please note: Discussions were held between the ESO and DNOs in late June and active consideration is now being given by the ESO to raising the second modification shown in the table above imminently (possible during or shortly after the Code Administrator Consultation for this GC0161 modification proposal closes) with an urgency request, which if granted by Ofgem, could mean that the second modification proposal could be subject to similar compressed timescales etc., to those seen with this GC0161 modification proposal in order to ensure implementation (if approved) before this winter.

The Workgroup considered the GC0161 proposed changes to the Grid Code. The initial intention of the Proposer was to remove a sentence in OC6.1.5, which prevents protection

in relation to Demand Control under the Grid Code. Workgroup members noted that just removing the entire text did not, in their view, provide certainty that would permit the DNOs to utilise the protected site list for OC6 purposes (which was the Proposers' intention).

Workgroup members therefore suggested, at the first Workgroup meeting, some wording be substituted for the deleted text. It was discussed that the wording needed to make clear that the provision of site protection is not guaranteed, and that the Grid Code clearly referred to the definition of protected sites, in accordance with the ESEC. It was also discussed that this modification proposal does not cover all aspects of Demand Control, as set out in the Grid Code, and that this needs to be clear in the legal text.

At the second Workgroup meeting, it was further agreed that the legal text should become more prescriptive, referring specifically to Demand Disconnection stages referred to in OC6.5.3(a), rather than Demand Control, to make it clear that (Grid Code enacted) Voltage Reduction is not included in the scope of this GC0161 modification proposal. One Workgroup member noted that the proposed legal text would give no reassurance to consumers on whether protection would be provided, however it was clarified by the Proposer that the modification intent was to remove the prevention of site protection when implementing an OC6.5.3(a) instruction, rather than to provide an obligation for Network Operators to protect sites, , because it will not always be technically feasible to do so.

The Proposer considered these wording suggestions for OC6.1.5 from the Workgroup and agreed with the proposed changes to OC6.1.5.

The Proposer then asked for the Workgroup's views on whether the deletion of the following wording from OC6.2.1 was required to proceed with modification GC0161:

“in a manner that does not unduly discriminate against, or unduly prefer, any one or any group of **Suppliers** or **Network Operators** or **Non-Embedded Customers**”

A Workgroup member noted that this wording arises from the Transmission Licence¹, in particular, Condition C14 (11)² which relates directly to the Grid Code. This Workgroup member then noted that the proposed deletion in OC6.2.1 would not remove the obligation upon the ESO (from the licence) even if it was removed from the Grid Code. Several Workgroup members noted that the sentence in OC6.2.1 does not prevent due discrimination, and it was agreed that site protection under OC6.5.3 would be considered to be due discrimination. Therefore, the Proposer accepted, and the Workgroup agreed, that the initial proposed change to OC6.2.1 was not required for this modification to proceed.

The Proposer then asked for the opinions of the Workgroup on another piece of legal text for addition into OC6.5, referring to the ESEC protected sites list, and asked whether the text should be placed at the beginning of OC6.5, or into OC6.5.3. The location of this legal text was discussed with the Workgroup, and it was noted that adding the text to the beginning of OC6.5 would influence all areas of Demand Control within the Grid Code. The Workgroup therefore agreed that it should be added in as a new clause in OC6.5.3(e), moving the current clause OC6.5.3(e) to OC6.5.3(f). It was also discussed that this legal text should specifically reference Demand Disconnection stages referred to in OC6.5.3(a),

¹ [Electricity Transmission Standard Licence Conditions 19 10 2021 \(ofgem.gov.uk\)](https://www.ofgem.gov.uk/consult/condln/condln19102021/condln19102021.pdf)

² “In preparing, implementing and complying with the Grid Code (including in respect of the scheduling of maintenance of the national electricity transmission system), the licensee shall not unduly discriminate in favour of or against, or unduly prefer, any person or class (or classes) of person.”

rather than Demand Control more generally, to make it clear that Voltage Reduction is not being referred to, since this is a form of Demand Control.

Accordingly, the Workgroup sought views via Workgroup Consultation on the proposed changes to OC6.1.5 and OC6.5.3.

Whilst not part of the GC0161 proposal the Workgroup noted that the criteria for a site being placed onto the protected site list is set out in the ESEC which is a document governed by the Secretary of State for the Department of Energy Security & Net Zero. As with other aspects of the Grid Code (as well as the CUSC and BSC) it is not unusual to reference a relevant, non Grid Code document (in this case the protected site list) for a separate, but related, Grid Code purpose.

The Workgroup considered costs and concluded that there are no material cost impacts as the Network Operators already have the protected site list(s) and processes for implementing OC6 Demand Control instructions. Therefore, the proposed GC0161 solution would have a minor, mainly 'administrative' related, cost which would be greatly out-weighed by the wider societal benefits of being able to afford (where technically feasible) protection to certain sites in the event of an OC6.5.3(a) Demand Disconnection instruction being implemented.

Workgroup Consultation Summary

The Workgroup held their Workgroup Consultation from 28 June 2023 to 04 July 2023 and received 3 non confidential responses (and no confidential responses). A full summary of responses can be found in Annex 5. Key points are summarised below:

- All Workgroup Consultation responses supported the implementation approach.
- All responses agreed that the Original Proposal better facilitates the Applicable Objectives (a) and (d). One respondent also believed that the Original Proposal also better facilitates Applicable Objective (c).
- All respondents agreed with the proposed change to the wording in OC6.1.5 and OC6.5.3.
- All respondents understood the proposed modification to mean that not all sites that are on the ESEC protected site list will be protected all the time.
- One respondent called for the ESO to proceed with its plan for further Grid Code modifications to other sections of OC6, particularly OC6.5.4, in order to ensure that the same level of protection for critical sites where interruption will have a societal impact is afforded across the other areas of OC6.
- The same respondent identified a minor typographical error in the draft legal text in OC6.5.3 (e) whereby "on *the instructions of*" should read "*on the instruction of*" (without the 's').

Legal text

The legal text for this change can be found in Annex 4.

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 Currently, the text does not allow, under certain circumstances, for the efficient operation of the electricity system.
(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);	Neutral The modification is related to demand control in the event of there being a shortfall in active power to meet demand. There is no implication to fair competition of 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;	Neutral OC6 Demand Control aims to manage the system under events when there is a shortfall in active power.
(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	Positive This modification will enable DNOs to remain compliant to Grid Code obligations in the event of a shortfall in active power.
(e) To promote efficiency in the implementation and administration of the Grid Code arrangements	Neutral This modification will not promote additional efficiency.

Workgroup vote

The Workgroup met on 07 July 2023 to carry out their Workgroup vote. The full Workgroup vote can be found in Annex 6. The table below provides a summary of the Workgroup members view on the best option to implement this change.

The Applicable Grid Code Objectives are:

Grid Code

- 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);

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- 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

The Workgroup concluded by unanimously that the Original Proposal better facilitated the Applicable Objectives than the Baseline.

Option	Number of voters that voted this option as better than the Baseline
Original Proposal	8

When will this change take place?

Implementation date

10 working days after the authority decision.

Date decision required by

Mid-September 2023.

Implementation approach

It is envisaged that DNOs may need to make changes to their processes to allow the relevant sites to be protected when implementing a Demand Disconnection instruction in accordance with OC6.5.3(a) where technically feasible.

Interactions

- | | | | |
|--|--|---|---|
| <input type="checkbox"/> Grid Code | <input type="checkbox"/> BSC | <input type="checkbox"/> STC | <input type="checkbox"/> SQSS |
| <input type="checkbox"/> European
Network Codes | <input type="checkbox"/> EBR Article 18
T&Cs ³ | <input type="checkbox"/> Other
modifications | <input checked="" type="checkbox"/> Other |

Changes to this modification will cause changes in Distribution Code as DNOs may need to revise their plans for disconnecting sites on receipt of an OC6 instruction.

³ If the modification has an impact on Article 18 T&Cs, it will need to follow the process set out in Article 18 of the Electricity Balancing Regulation (EBR – EU Regulation 2017/2195) – the main aspect of this is that the modification will need to be consulted on for 1 month in the Code Administrator Consultation phase. N.B. This will also satisfy the requirements of the NCER process.

Acronyms, key terms and reference material

Acronym / key term	Meaning
BSC	Balancing and Settlement Code
CUSC	Connection and Use of System Code
EBR	Electricity Balancing Regulation
ESEC	Electricity Supply Emergency Code
ESPR	Electricity Shortfall Prioritisation Review
ESO	Electricity System Operator
GC	Grid Code
NCER	Network Code on Emergency and Restoration
OC6	Operating Code 6
STC	System Operator Transmission Owner Code
SQSS	Security and Quality of Supply Standards
T&Cs	Terms and Conditions

Reference material

- [Electricity Supply Emergency Code](#)
- [Transmission License Standard Conditions](#)

Annexes

Annex	Information
Annex 1	Proposal form
Annex 2	Terms of reference
Annex 3	Urgency letters
Annex 4	Legal text
Annex 5	Workgroup consultation responses summary
Annex 6	Workgroup consultation responses
Annex 7	Workgroup vote
Annex 8	Workgroup membership record