

Modification proposal:	Grid Code GC0161: Changes to OC6 to allow for site protection (GC0161)		
Decision:	The Authority ¹ directs ² that the proposed modification to the Grid Code be made		
Target audience:	National Grid Electricity System Operator (NGESO), the Grid Code Review Panel, Grid Code users and other interested parties		
Date of publication:	15 September 2023	Implementation date:	02 October 2023

Background

During 2023, the Department for Energy Security and Net Zero ran a series of Electricity Shortfall Prioritisation Review (ESPR) workshops, which reviewed and identified improvements in the prioritisation of electricity supplies during a supply shortfall. This included a review of the existing industry Demand Control products within Grid Code Operational Code 6 "Demand Control" (OC6).

It was identified that OC6 explicitly prohibits the protection of **any** customers in relation to Demand Control under the Grid Code. This includes sites on the Protected Sites List in the government's Electricity Supply Emergency Code (ESEC)³. The ESPR identified that there is merit in protecting such sites during a supply shortfall.

GC0161 is the first in a series of Grid Code modifications seeking to implement the recommendations of the ESPR. On 2 June 2023, we approved the Grid Code Review Panel's request for GC0161 to be progressed as an Urgent Modification⁴.

The modification proposal

GC0161 was raised by NGESO (the 'Proposer'). It was developed alongside Distribution Code modification DCRP/MP/23/03, and workgroups developing the modifications were aligned. Today we have also published our decision to approve DCRP/MP/23/03.⁵

GC0161 aims to remove the existing barrier to protecting critical sites (sites on the ESEC Protected Sites List), for Demand Control under OC6.5.3(a) implemented via Demand Disconnection only. OC6.5.3(a) relates to Distribution Network Operators (DNOs) reducing Demand, on instruction of NGESO, by up to 20% of their total Demand.

To facilitate this, GC0161 proposes to:

- amend OC6.1.5, which currently prohibits any protections, to state that protections can be provided, where technically feasible, in relation to those

¹ References to the "Authority", "Ofgem", "we" and "our" are used interchangeably in this document. The Authority refers to GEMA, the Gas and Electricity Markets Authority. The Office of Gas and Electricity Markets (Ofgem) supports GEMA in its day to day work. This decision is made by or on behalf of GEMA.

² This document is notice of the reasons for this decision as required by section 49A of the Electricity Act 1989.

³ The ESEC criteria for 'Protected Sites' can be found in section 5 of the ESEC document; https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/995049/esec-guidance.pdf

⁴ <https://www.ofgem.gov.uk/publications/authority-decision-gcrps-request-urgency-gc0161-changes-oc6>

⁵ DCRP/MP/23/03 proposes changes to the Distribution Code to reflect the changes to the Grid Code proposed by GC0161. Our decision to approve DCRP/MP/23/03 can be found here; <https://www.ofgem.gov.uk/publications/dcrmp2303-authority-decision>

Demand Disconnection stages referred to in OC6.5.3(a), though noting that protection cannot be guaranteed.

- add a new clause in OC6.5.3 stating that in relation to Demand Disconnection stages referred to in OC6.5.3(a) protections may be given where technically feasible, to pre-designated protected sites as per the ESEC.

A Code Administrator Consultation was issued on the 17 July 2023 and closed on 17 August 2023 receiving 3 responses. All responses were in support of the proposed modification.

The Proposer considers the modification to have a positive impact on Grid Code objectives (a)⁶ and (d)⁷, and a neutral impact on all other objectives.

Grid Code Review Panel recommendation

The Grid Code Review Panel met on 24 August 2023 to carry out their recommendation vote. They recommended unanimously that the Proposer's solution is implemented. They also agreed by majority with the Proposer's consideration of the modification against the relevant Grid Code objectives. We note that two members considered the modification to have a neutral impact on all objectives, whilst two other members considered the modification to have a positive impact on objective (c)⁸ as well as (a) and (d).

Our decision

We have considered the issues raised by the modification proposal and in the Final Modification Report (FMR) dated 24 August 2023. We have considered and taken into account the responses to the industry consultation on the modification proposal which are included in the FMR⁹. We have concluded that:

- implementation of the modification proposal will better facilitate the achievement of the objectives of the Grid Code;¹⁰ and
- approving the modification is consistent with our principal objective and statutory duties.¹¹

Reasons for our decision

We consider this modification proposal will better facilitate Grid Code objectives (a) and (d), and has a neutral impact on the other objectives.

⁶ Grid Code objective (a); to permit the development, maintenance and operation of an efficient, co-ordinated and economical system for the transmission of electricity.

⁷ Grid Code objective (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.

⁸ Grid Code objective (c); subject to sub-paragraphs (a) and (b), 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.

⁹ Grid Code proposals, final reports and representations can be viewed on NGESO's website at: <https://www.nationalgrideso.com/industry-information/codes/grid-code/modifications>

¹⁰ As set out in Standard Condition C14(1)(b) of the Electricity Transmission Licence, available at: <https://www.ofgem.gov.uk/industry-licensing/licences-and-licence-conditions>

¹¹ The Authority's statutory duties are wider than matters which the Grid Code Panel Review must take into consideration and are detailed mainly in the Electricity Act 1989 as amended.

(a) to permit the development, maintenance and operation of an efficient, co-ordinated and economical system for the transmission of electricity

We consider GC0161 allows DNOs to implement instructions pursuant to the Demand Disconnection stages referred to in OC6.5.3(a) in such a way as to protect supplies to critical customers (Protected Sites as established under ESEC), where technically feasible. By seeking to protect critical sites, we consider GC0161 has a positive impact on the operation of an efficient, coordinated and economical system.

We note that this objective relates to the 'system for the transmission of electricity', however we consider that a coordinated system extends to all its users, including DNOs who are responsible for their systems connected to the transmission system. We further note that the workgroup considered costs, and concluded that there are no material cost impacts associated with GC0161. Overall, therefore we consider GC0161 to have a positive impact on this Grid Code objective.

We note that GC0161 relates to Demand Disconnection by up to 20% of DNO total Demand only. On 4 August 2023, we approved the Grid Code Review Panel's request for GC0162 to be progressed as an Urgent Modification¹². GC0162 follows GC0161, and aims to facilitate similar protection of supplies to critical customers as established under ESEC where technically feasible for Demand Disconnection above 20%, with a focus between 20% and 40%. We will consider GC0162 on its merits once received by the Authority for decision.

(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

We note that the FMR doesn't highlight any considerations with respect to this Grid Code objective, however Grid Code OC6 contains a number of Demand Control products, including Low Frequency Demand Disconnection (LFDD), which may have mutual interactions. Historically, areas of DNO networks impacted by LFDD differ from those areas impacted by Demand Disconnection, thereby avoiding degradation of either product should both be required simultaneously. Such distinction is not present with respect to ESEC rota disconnection Load Blocks and LFDD blocks. This risk was recognised within the ESPR, which recommends further work to assess interactions between different Demand Control tools including LFDD and ESEC. This risk was discussed within the ongoing GC0162 workgroup.¹³

In implementing GC0161, we understand DNOs intend to replace OC6.5.3(a) Demand Disconnection blocks with ESEC Rota Load Disconnection blocks. This introduces a low risk of degradation of LFDD or vice versa, should both products be required simultaneously. DNOs are cognisant of this and will endeavour to minimise the risk of degradation in implementing GC0161.¹⁴

¹² <https://www.ofgem.gov.uk/publications/authority-decision-gcrps-request-urgency-gc0162>

¹³ Interactions between ESEC and LFDD were noted within the ongoing GC0162 workgroups; <https://www.nationalgrideso.com/document/288176/download>

¹⁴ This was confirmed by NG ESO, and DNOs at the ongoing GC0162 workgroups.

Overall, we consider the societal and coordinated system benefits of protecting critical customers where technically feasible as per GC0161 outweighs the low risk of LFDD degradation should both products be required simultaneously. We also acknowledge that LFDD is an automatic response, and further LFDD stages may be initiated automatically if required.

We note that whilst the likelihood of an emergency incident requiring any form of Demand Control is low, in theory, a sufficiently large loss of power infeed has the potential to result in a Demand Control event. The ESO mitigates credible contingency events through their application of the Frequency Risk and Control Report (FRCR)¹⁵, an event outside of those managed by the FRCR could result in Demand Control being enacted under OC6.

Overall, we consider GC0161 to have a neutral impact on this Grid Code objective.

(d) to efficiently discharge the obligations imposed upon the licensee by this licence and to comply with the Electricity Regulation and any relevant legally binding decisions of the European Commission and/or the Agency.

GC0161 removes a legal barrier to protecting customers in relation to Demand Disconnection stages referred to in OC6.5.3(a), allowing them to protect pre-designated critical sites as per the ESEC Protected Sites List. We consider this allows DNOs to discharge their Grid Code obligations (which is a condition of their licence) efficiently, with minimal societal impact. We therefore consider GC0161 to have a positive impact on this Grid Code objective.

Decision notice

In accordance with Standard Condition C14 of the Transmission Licence, the Authority hereby directs that Grid Code modification proposal Grid Code GC0161: *'Changes to OC6 to allow for site protection'* be made.

Gurpal Singh
Principal Engineer & Professions Lead

Signed on behalf of the Authority and authorised for that purpose

¹⁵ <https://www.nationalgrideso.com/industry-information/codes/security-and-quality-supply-standard-sqss/frequency-risk-and-control>