Modification proposal:	**Grid Code GC0162: Changes to OC6 to amend the operational timings for the delivery of the additional demand reduction above 20%, with a focus between 20% and 40% (GC0162)**		
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:	1 December 2023	Implementation date:	15 December 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, and recommended a series of Grid Code modifications to facilitate this.

On 15 September 2023, we approved Grid Code modification GC0161, which removed the Grid Code barrier to protecting critical sites (sites on the ESEC Protected Sites List), for Demand Control under Grid Code OC6.5.3(a) implemented via Demand

[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

Disconnection. This applies to Demand Control instructions to reduce Demand by up to 20% only.[4]

GC0162 follows GC0161, seeking to extend the ability to protect critical sites to further stages of Demand Control via Demand Disconnection. On 4 August 2023, we approved the Grid Code Review Panel's request for GC0162 to be progressed as an Urgent Modification[5].

The modification proposal

GC0162 (the Proposal) was raised by NGESO (the Proposer) and developed by a working group which convened six times to discuss and develop the Proposal. It seeks to extend the principles of protecting critical sites (sites on the ESEC Protected Sites List) from Demand Control implemented via Demand Disconnection (introduced via GC0161) of between 20% to 40% of Demand.

The Proposal makes changes to OC6.5.5 to facilitate the above protections by amending the operational timing requirement of Demand Disconnection of between 20% to 40% of Demand. It also makes further changes to OC6.1.5, OC6.5.3, OC6.5.4 and OC6.5.5 to ensure consistency within OC6, clarify the operational requirements in the case of multiple Demand Control instructions being issued by the ESO, and to ensure that OC6 is in line with operational practices.

A Code Administrator Consultation was held between 13 October 2023 and 14 November 2023, receiving two responses both in support of the Proposal.

The Proposer considers the Proposal to have a positive impact on Grid Code objectives (a)[6], (c)[7] and (d)[8], and a neutral impact on all other objectives.

[4] https://www.ofgem.gov.uk/publications/gc0161-authority-decision
[5] https://www.ofgem.gov.uk/publications/authority-decision-gcrps-request-urgency-gc0162
[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 (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.
[8] 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.

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Grid Code Review Panel recommendation

The Grid Code Review Panel met on 23 November 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 assessment of the modification against the relevant Grid Code objectives.

Our decision

We have considered the issues raised by the modification proposal and in the Final Modification Report dated 23 November 2023. We have considered and taken into account the responses to the industry consultation on the modification proposal which are included in the Final Modification Report[9]. 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), (c) and (d) and has a neutral impact on the other objectives.

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

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 consider that by facilitating the protection of critical sites (sites on the ESEC Protected Sites List)

[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://epr.ofgem.gov.uk/
[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.

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from Demand Control via Demand Disconnection (of 20% to 40% of Demand), this Proposal better facilitates an efficient and co-ordinated system.

We note that the workgroup considered that there are no material costs associated with the implementation of this Proposal, as DNOs already have in place the processes for implementing OC6 Demand Control instructions.

We therefore consider the Proposal to have a positive impact on this 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

The Proposal amends the time required to implement Demand Disconnection of between 20% and 40% in order to allow DNOs to protect critical sites (sites on the ESEC Protected Sites List). In doing so, the Proposal clarifies how multiple Demand reduction instructions are to be responded to. Whilst this may extend the overall time of implementing Demand Disconnection greater than 20% of Demand, NGESO confirmed that this would promote rather than hinder system security. This is because consecutive Demand Disconnections provide a stepped response that's easier to manage, and the Proposal ensures all DNOs interpret instructions in the same way therefore providing consistent response.

We note that in protecting critical sites, DNOs intend to use ESEC Demand Blocks to deliver Demand Disconnection under OC6.5. This introduces a low risk of degradation of LFDD or Demand Disconnection under OC6.5, should both products be required simultaneously. DNOs are cognisant of this and will endeavour to minimise the risk of degradation in implementing this Proposal. Overall, we consider the societal and coordinated system benefits of protecting critical customers 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. In relation to LFDD interactions, NGESO stated that they would consider holding additional frequency response if possible, when using OC6.5 in order to mitigate frequency risks.

We note that the potential for OC6 Demand Disconnections causing Demand to increase rather than decrease, as a consequence of Embedded Generation was discussed within

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the workgroup. The ESO and DNOs stated that they would attempt, when setting up the operational switching arrangements, to avoid disconnecting Demand blocks with significant embedded generation by seeking, where possible, to ensure that the ESEC blocks that would be used to implement Demand Disconnection of between 20% and 40% had minimal levels of embedded generation.[12]

Overall, we consider this Proposal to have a positive impact on this 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.

The Proposal removes a legal barrier to allow DNOs to protect critical sites (sites on the ESEC Protected Sites List) when implementing Demand Control via Demand Disconnection of between 20% and 40% of Demand. This Proposal amends OC6.5 to align with current practices. 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 this Proposal to have a positive impact on this objective.

Decision notice

In accordance with Standard Condition C14 of the Transmission Licence, the Authority hereby directs that Grid Code modification proposal GC0162: *'Changes to OC6 to amend the operational timings for the delivery of the additional demand reduction above 20%, with a focus between 20% and 40%'* be made.

Gurpal Singh
Principal Engineer & Profession Lead
Signed on behalf of the Authority and authorised for that purpose

[12] We note that this is also the case for Demand blocks that would be used to implement Demand Disconnection of up to 20% of Demand.

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