

# Stage 01: Modification Proposal

## Grid Code

# GC0104

## Mod Title: EU Connection Codes GB Implementation – Demand Connection Code

### Purpose of Modification:

This modification will set out within the Grid Code the following compliance obligations in the European Network Code – Demand Connection Code (DCC):

1. Technical requirements for new\* Transmission-connected Demand Facilities; Transmission-connected Distribution Facilities and Distribution Systems.
2. Technical requirements for Demand Units used by a Demand Facility or a Closed Distribution System to provide Demand Response Services to System Operators.

\* 'New' is defined as not being connected to the system at the time that the code enters into force and not having concluded a final and binding contract for the purchase of main plant items by two years after entry into force.

**The Proposer recommends that this modification should be:** assessed by a Workgroup to form the final proposals for the mod and then proceed to Workgroup Consultation.

This modification was raised August 2017 and will be presented by the Proposer to the Panel on *dd month year (Code Administrator to provide date)*. The Panel will consider the Proposer's recommendation and determine the appropriate route.



**High Impact:** Transmission System Operators (TSOs), Transmission Connected Demand Facilities, Demand Facilities providing DSR, Aggregators and Directly Connected Transmission Facilities; Distribution Network Operators



**Medium Impact:** Operators of Demand schemes considering modernisation.



**Low Impact:** None identified

What stage is this document at?

01	Modification Proposal
02	Workgroup Report
03	Code Admin Consultation
04	Draft Final Modification Report
05	Report to the Authority

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### Any Questions?

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## Timetable

**The Code Administrator recommends the following timetable: (to be agreed at the August Grid Code Panel meeting)**

Workgroup Meeting 1	6 September 2017
Workgroup Meeting 2	5 October 2017
Workgroup Meeting 3	2 November 2017
Workgroup Consultation issued/closes	16 November 2017/ 7 December 2017
Workgroup meeting 4	TBC Dec 2017
Workgroup Report presented to Panel (submission/presented)	9 January 2018/ 17 January 2018
Code Administration Consultation Report issued to the Industry (opens/closes)	19 January 2018/ 9 February 2018
Draft Final Modification Report presented to Industry and Panel (issued/presented)	13 February 2018/ 21 February 2018
Modification Panel Recommendation vote	21 February 2018
Final Modification Report issued the Authority	7 March 2018
Authority decision due (25WDs)	13 April 2018
Decision implemented in Grid Code (10WDs)	30 April 2018

## 1 Summary

### ***What***

Full sections of the Grid Code, for example the Connection Conditions (CCs), will need to be extended to set out the new EU standards to which impacted users will need to comply with.

This will be a combination of completely new requirements inserted into the Grid Code, or adjustments/continuation of corresponding existing GB requirements to line up with equivalents in the new EU codes.

### ***Why***

Guidance from BEIS and Ofgem was to apply the new EU requirements within the existing GB regulatory frameworks. This would provide accessibility and familiarity to GB parties, as well as putting in place a robust governance route to apply the new requirements in a transparent and proportionate way.

This modification needs to be undertaken in timely manner to ensure impacted users are aware of their compliance obligations - particularly in relation to procurement of equipment, testing and operational requirements. This modification is also therefore, critical to facilitate/demonstrate Member State compliance to this EU Network Code.

### ***How***

With the support of the industry, we will use this modification to finalise proposals to apply the EU Connection Codes requirements in DCC, before consulting with the wider industry and submitting to Ofgem for a decision.

Previously, a Grid Code issue group was formed (GC0091) to:

1. Comprehensively review the code to form a local interpretation of the DCC requirements;
2. Undertake a mapping between the EU and GB codes to understand the extent for possible code changes;
3. Form proposals, which will now be taken forward as formal modifications.

## 2 Governance

Given the complexity and wide-ranging impact of the changes proposed in this mod, the proposer believes that self-governance or fast track governance arrangements are not appropriate in this case.

Instead, 'Normal' Grid Code governance processes should be followed.

### 3 Why Change?

This proposal is one of a number of proposals which seek to implement relevant provisions of a number of new EU Network Codes/Guidelines which have been introduced in order to enable progress towards a competitive and efficient internal market in electricity.

Some EU Network Guidelines are still in development and these may in due course require a review of solutions developed for Codes that come into force beforehand. The full set of EU network guidelines are;

- Regulation 2015/1222 – Capacity Allocation and Congestion Management (CACM) which entered into force 14 August 2015
- Regulation 2016/1719 – Forward Capacity Allocation (FCA) which entered into force 17 October 2016
- *Regulation 2016/631 - Requirements for Generators (RfG) which entered into force 17 May 2016*
- **Regulation 2016/1388 - Demand Connection Code (DCC) which entered into force 7 September 2016**
- *Regulation 2016/1447 - High Voltage Direct Current (HVDC) which entered into force 28 September 2016*
- Transmission System Operation Guideline (TSOG) - entry into force anticipated Summer 2017
- Emergency and Restoration (E&R) Guideline - entry into force anticipated Autumn 2017

DCC was drafted with the objective of facilitating greater connection of renewable generation; improve security of supply; and enhance competition to reduce costs for end consumers, across EU Member States.

DCC specifically sets harmonised technical standards for the connection of new equipment for Demand equipment. It also addresses delivery of Demand Response, an important instrument for increasing the flexibility of the internal energy market and for enabling optimal use of networks. Historically, Generation facilities have formed the backbone of providing technical capabilities to System Operators. However, Demand Facilities are expected to play a more pivotal role in the future.

Significant work to progress GB understanding of the DCC has been undertaken in Grid Code/Distribution Code issue group **GC0091 (DCC)**. This group have also worked up basic implementation proposals which will be taken on in GC0104.

GC0091 was widely attended, including DNOs and smaller parties. Additional stakeholder holder engagement has been undertaken to ensure the impacts of DCC is understood, as well as to provide an opportunity to feed into the implementation approach.

Through proposing these modifications under Open Governance (rather than continue with GC0091 which was raised under previous Grid Code governance arrangements), we will aim to finalise our proposals in a timely manner; and undertake the necessary consultations to confirm our proposals are appropriate, before submitting papers to Ofgem to request a decision.

### ***Technical Skillsets***

- Understanding of the GB regulatory frameworks (particularly Grid Code and Distribution Code)
- High level understanding of the EU codes and their potential impact
- Operational/technical understanding of equipment which is bound by DCC
- Where appropriate, knowledge of the obligations and operational processes of GB Network Operators and the GB National Electricity Transmission System Operator

### ***Reference Documents***

Demand Connection Code legal text:

<http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32016R1388&from=EN>

**The following areas of modification affect connection of transmission-connected demand facilities, transmission-connected distribution facilities and distribution systems:**

- General frequency requirements
- General voltage requirements
- Short-circuit requirements
- Reactive power requirements
- Demand disconnection and demand reconnection

**The following areas of modification affect Connection requirements of Demand Units used by a Demand Facility or a Closed Distribution System to provide Demand Response Services to System Operators:**

- General provisions
- Specific provisions for demand units with demand response active power control, reactive power control and transmission constraint management
- Specific provisions for demand units with demand response system frequency control
- Specific provisions for demand units with demand response very fast active power control

Open modification GC0100 will set out the legal text to apply the scope of DCC (as it does for RfG and HVDC also), and GC0102 will cover any requirements determined to be supporting system management or compliance.

GC0104 will address only the technical requirements of DCC – commercial facilitation is beyond the scope of GC0104.

## 6 Impacts and Other Considerations

- i. *The Grid Code and Distribution Code will bear the primary impact of the EU Connection Code mods.*
- ii. *The Transmission/Distributions connections and compliance processes will need to be slightly altered to ensure they accommodate the new EU requirements as set out in the modified Grid Code and Distribution Codes.*
- iii. *No system changes are anticipated as a result of implementing the EU Connection Codes*

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

The EU Network Code implementation is being undertaken as a significant programme of work within the GB industry. This mod forms part of that programme, but is not part of an on-going SCR.

### ***Consumer Impacts***

This modification implements consistent technical standards across the EU for the connection of Demand equipment. This should lead to efficiencies and potential cost savings for developers.

The Demand Side Response provisions should also improve market access for new entrants, leading to greater levels of competition, which should lead to lower costs for end consumers.

## 7 Relevant Objectives

Impact of the modification on the Relevant Objectives:	
Relevant Objective	Identified impact
To permit the development, maintenance and operation of an efficient, coordinated and economical system for the transmission of electricity	Positive
To facilitate 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)	Positive
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
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
To promote efficiency in the implementation and administration of the Grid Code arrangements	Neutral

DCC is one of the eight EU Connection Codes which derive from the Third Energy Package legislation; focused on delivering security of supply; supporting the connection of new renewable plant; and increasing competition to lower end consumer costs. It therefore directly supports the first three Grid Code objectives.

Furthermore, this modification is to ensure GB compliance of EU legislation in a timely manner, which positively supports the fourth Grid Code applicable objective.

## 8 Implementation

This modification must be in place to ensure the requirements of DCC are set out in the GB codes *by* two years from Entry Into Force - 7 September 2016

It is therefore crucial that this work is concluded swiftly to allow the industry the maximum amount of time to consider what they need to do to arrange compliance.

Not yet agreed

## 10 Recommendations

Panel is asked to:

- Approve that 'normal' code governance procedures be used for GC0104
- Approve that a Workgroup is convened to continue to form (following on from GC0091) and finalise proposals to implement DCC
  - GC0091 should then be withdrawn