Modification proposal:	**Distribution Code: GC0102/DCRP – Implementation of the EU Network Code – Requirement for Generators**		
Decision:	The Authority[1] has decided to approve[2] this modification		
Target audience:	Distribution licensees, Distribution Code Review Panel, distribution network users and other interested parties		
Date of publication:	15 May 2018	Implementation date:	16 May 2018

Background

The European Third Energy Package came into force on 3 September 2009. The Requirement for Generators (RfG), Demand Connection Code (DCC) and High Voltage Direct Current (HVDC) codes are part of a suite[3] of European Regulations developed following implementation of the Third Package.[4]

- COMMISSION REGULATION (EU) 2016/631 of 14 April 2016 establishing a network code on requirements for grid connection of generators (RfG) – specifies the technical connection requirements that new generators must abide by.[5]
- COMMISSION REGULATION (EU) 2016/1388 of 17 August 2016 establishing a Network Code on Demand Connection (DCC) – specifies the technical connection requirements that new distribution networks connecting to the transmission system, new demand users connecting to the transmission system and new customers wanting to provide demand side response services, must abide by.[6]
- COMMISSION REGULATION (EU) 2016/1447 of 26 August 2016 establishing a network code on requirements for grid connection of high voltage direct current systems and direct current-connected power park modules (HVDC) – specifies the technical connection requirements that new long distance DC connections, new links between different synchronous areas (eg interconnectors) and new DC-connected generation (eg offshore wind farms) must abide by.[7]

These European Regulations intend to deliver a harmonised set of rules for the operation of the electricity sector in Europe. The European Regulations aim to help ensure security of supply, facilitate the decarbonisation of the energy sector and create a competitive, pan-European market which benefits consumers.

These European Regulations are directly applicable to GB without having to be transposed into our national laws or regulatory frameworks. European Regulations also take precedence in the legal "hierarchy of laws" over domestic law (ie if a domestic law is incompatible with a European Regulation, it is the European law which takes precedence).

In GB we already have existing national technical codes and standards for parties that want to connect to the GB electricity transmission system. The Distribution Code covers

[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] Collectively referred to as the European Network Codes (ENCs)
[4] More information on the European Third Energy Package can be found on our website; link here
[5] Commission Regulation (EU) 2016/631 of 14 April 2016 establishing a network code on requirements for grid connection of generators (referred to as the RfG); link here
[6] Commission Regulation (EU) 2016/1388 establishing a network code on demand connection; link here
[7] Commission Regulation (EU) 2016/1447 of 26 August 2016 establishing a network code on requirements for grid connection of high voltage direct current systems and direct current-connected power park modules (refer to as the HVDC); link here

all material technical aspects relating to connections to, and the operation and use of, the electricity distribution system. In accordance with our decision to incorporate the new EU requirements within the existing GB regulatory frameworks[8], this modification seeks to amend the Distribution Code to make it consistent with the European Network Codes. This will provide accessibility and familiarity to GB parties, and utilises the existing code governance processes to apply the new requirements in a transparent and proportionate way.

It is important to note that until we formally leave the EU and the terms of the exit are established, we will continue to participate constructively in EU institutions and the European Internal Energy Market (IEM). We will also continue to comply with and implement EU laws.

This decision letter should be read in conjunction with our decisions on GC0100, GC0101, and GC0102 as together they implement the requirements of the RfG and HVDC codes in the Grid and Distribution Codes.

The modification proposal

This modification was developed in conjunction with the Grid Code Review Panel as industry implements the ENCs. GC0102/DCRP seeks to implement the technical requirements of the RfG. Specifically it looks to introduce changes relevant to the Distribution Code in parallel with Grid Code modifications GC100, GC101 and GC102. Today we have published our decision on each of these modifications.

The modification proposes changes to the main text of the Distribution Code as well as introducing two new Engineering Recommendations (EREC); G98 and G99. These new ERECs are based upon G83 and G59[9] and make modifications to them as a result of the RfG and HVDC codes. G83 and G59 will be retained in the code as they apply to generators connected prior to the implementation date of this modification.

Detailed code mapping is available in an annex to the modification. In this decision letter we summarise the key areas of change.

Distribution Code Main Text

Proposed changes harmonise key definitions in the Distribution Code with the RfG. This includes removing definitions for Large and Small Power Stations. The definition of Medium Power Stations has been retained to facilitate requirements for Licence Exempt Embedded Medium Power Stations in the Grid Code. Existing references to G83 and G59 refer to G98 and G99 beyond the 'effective from' date. In addition, altered data collection requirements and 'Guidance note 2' references are changed to reflect G98 and G99 inclusions.

Proposed EREC G98

Proposed G98 is based on G83 and BS EN 50438[10] but with the inclusion of RfG requirements. There is an expectation that a new BS EN standard will be created to replace 50438 and as such a further modification will be expected to the Distribution Code at that time. RfG requirements include the need for Limited Frequency Sensitive

[8] Implementing the Electricity EU Network Codes, 18 December 2014; Link here
[9] G83 & G59 are annex 1 documents to the Distribution Code; Link here
[10] BS EN 50438 can be accessed through the British Standards website; Link here

Mode[11] (LFSM). This capability has not previously been required under the Distribution Code and as such is an addition.

The RfG requires compliance with the code to be demonstrated by the connecting party. The RfG created the ability to demonstrate compliance through Equipment Certificates however there are currently no means to produce these certificates. Until Equipment Certificates exist compliance can be demonstrated through existing type-testing processes.

Proposed EREC G99

Proposed G99 is based on G59 but with the inclusion of RfG requirements. The ability to type test equipment has been extended beyond the current G59 limit of 50kW. This is as a result of there being no limit in the RfG for the use of Equipment Certificates. LFSM and fault ride through (FRT) have been included in G99. The modification requires:

- Type B – D generators: provide appropriate control ports to enable the DNO to issue instructions.
- Type B – D generators: to submit simulation studies as part of the connection process to the DNO.
- Type C & D generators: to fit dynamic system monitoring equipment.

Final Operation Notification (FON) certificates are required to be issued for Type B and C generators. Type D generators require Energisation Operation Notification, Interim Operation Notification and FON.

Distribution Code Review Panel (DCRP)[12] comments and licensee recommendation

At the DCRP Panel meeting on 8 February 2018, the DCRP considered that the modification proposal would better facilitate the Distribution Code objectives and therefore recommended its approval. The DCRP consider that objective (c) is better facilitated by the modification and has a neutral impact on all other objectives. This modification was recommended for approval by the Distribution Network Operators

Our decision

We have considered the issues raised by the modification proposal and in the Final Report dated 20 February 2018. We have considered and taken into account the responses to the consultation on the modification proposal which are included in the Final Modification Report.[13] We have concluded that:

- implementation of the modification proposal will better facilitate the achievement of the applicable objectives of the Distribution Code;[14] and
- approving the modification is consistent with our principal objective and statutory duties.[15]

[11] LFSM is explained further on ENTSO-E's website; Link here
[12] The DCRP is established in accordance with SLC 21 of the Electricity Distribution Licence.
[13] Distribution Code proposals, final reports and representations can be viewed at: http://www.dcode.org.uk/areas-of-work/ and http://www.dcode.org.uk/consultations/
[14] As set out in Standard Condition SLC 21.4 of the Electricity Distribution Licence available at: https://epr.ofgem.gov.uk//Content/Documents/Electricity%20Distribution%20Consolidated%20Standard%20Licence%20Conditions%20-%20Current%20Version.pdf
[15] The Authority's statutory duties are wider than matters which the Panel and licensees must take into consideration and are largely provided for in statute, principally in this case the Electricity Act 1989.

Reasons for our decision

We note that the DCRP consider that this modification better facilitates objective (c) and has a neutral impact on the other Distribution Code objectives. However, we consider this modification proposal will better facilitate Distribution Code objectives[16] (a), (b), (c) and has a neutral impact on (d). We set out our reasons for this below.

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

The scope of the ENCs is to harmonise systems across the internal energy market. This should help make it easier and more efficient to operate the electricity system, by introducing a common, clear set of requirements which every new connection to the electricity network will need to meet.

(b) facilitate competition in the generation and supply of electricity

Implementation of the RfG should also help facilitate competition in the generation of electricity by improving transparency and consistency of access arrangements across different electricity systems in Europe. This removes a potential barrier to entry and allows market participants to trade between Member States more easily by ensuring that there is a level playing field in terms of connection requirements, thus improving competition in generation.

The RfG should also assist the creation of a pan-European market for power generating module (PGM) technology, by increasing the commonality of PGM requirements. This should help improve competition between manufacturers and make it cheaper to build PGM technology, thus reducing costs for consumers.

(c) efficiently discharge the obligations imposed upon distribution licensees by the distribution licences and comply with the Regulation and any relevant legally binding decision of the European Commission and/or the Agency for the Co-operation of Energy Regulators

We consider that GC0102/DCRP better facilitates this objective. This modification was raised in response to the requirement to implement RfG and HVDC. These European Regulations are legally binding and directly applicable within GB. The modification seeks to ensure that the Distribution Code is consistent with these European Regulations.

Through the consultation process a number of issues were raised. The lack of compliance certificate process across the EU was raised. Consultees recognised that this is an issue with the legislation not with the modification proposal itself. Work has also been identified that is ongoing with NGET to clarify requirements for Type B synchronous generators. Further modification to the Distribution Code is expected as a result.

Other Issues

We also note that there is an error with the compliance dates proposed by the modification. Article 72 of RfG and Article 86 of HVDC states **that "*this Regulation shall apply from three years after publication*"**, however the dates proposed as part of this modification state that compliance will start three years from entry into force. We therefore encourage industry to raise a modification to address this error to ensure that

[16] As set out in Part A of standard licence condition 22 of the Distribution licence

the Grid Code correctly reflects the applicable regulatory and legislative framework at all times.

Decision notice

In accordance with SLC 21.11 of the Electricity Distribution Licence, the Authority hereby directs that Distribution Code: GC0102/DCRP – Implementation of the EU Network Code – Requirement for Generators as set out in the Final Modification Report to the Authority dated 20 February 2018 be made.

Peter Bingham
Chief Engineer
Signed on behalf of the Authority and authorised for that purpose