DCode

DCRP_17_02_09

Distribution Code Review Panel

Meeting 64 – June 8 2017

2017 Revion to DG Connection Guides

Paper by Code Administrator

Background

DNOs are obliged to publish and maintain Distributed Generation Connections Guides (DGCG), according to Distribution Standard Licence Condition 25A. The DGCGs are a set of documents to provide an guidance to thise interested stakeholders looking to connect generation to the distribution network.
As an Annex 2 qualifying standard to the DCode direct governance of and approval to publish the documents is in the remit of the Distribution Code Review Panel (DCRP). The Energy Networks Association, on behalf of its members companies, revise the Guides with the assistance of consultants Ricardo-AEA to undertake this revision work.

There are four separate Distributed Generation Connection Guides, each with a corresponding 'Summary' guide. The purpose of the summary guide is to act as a quick check, providing only the most useful information in a condensed format. Each full guide has a flowchart that guides the reader to the most relevant Connection Guide for the Distributed Generation that they are planning to install.

1. A Guide to Connecting Domestic-Scale Type Tested Generation to the Distribution Network (Typically by Householders) in a Single Premise that Falls Under G83
1a. *A Quick Reference Guide for Connecting Domestic-Scale Type Tested Generation to the Distribution Network (Typically by Households) in a Single Premise that Falls Under G83*

2. A Guide to Connecting Multiple Domestic-Scale Type Tested Generation to the Distribution Network (Typically by Developers, Landlords or Community Groups) in Multiple Premises that Falls Under G83
2a. *A Quick Reference Guide to Connecting Multiple Domestic-Scale Type Tested Generation to the Distribution Network (Typically by Developers, Landlords or Community Groups) in Multiple Premises that Falls Under G83*

3. A Guide to Connecting Type Tested Generation that Falls Under G59, and is 50kW or Less 3- Phase or 17kW or Less Single Phase, to the Distribution Network (Typically by Developers, Landlords or Community Groups)
3a. A Quick Reference Guide to Connecting Type Tested Generation that Falls Under G59, and is 50kW or Less 3-Phase or 17kW or Less Single-Phase, to the Distribution Network (Typically by Developers, Landlords or Community Groups)

4. A Guide for Connecting Generation that Falls Under G59 to the Distribution Network (Typically by Developers, Industry, Commercial or Farms)
4a. A Quick Reference Guide for Connecting Generation that Falls Under G59 to the Distribution Network (Typically by Developers, Industry, Commercialor Farms)

The Guides are intended to help an owners or developers of Distributed Generation, to connect their generating plant to one of the UK's electricity distribution networks. A record of all revisions can be found at the rear of each guide. Please note that these are only *guides* to to the technical Engineering Recommendations G83/2 and G59/3. Both ERs can be freely downloaded here.

2017 Revisions

The 2017 DGCG revisions are intended as a minor revision to keep the Guides up to date, but do not include major content or structural changes. There is a major revision planned for the Guides in the near future, which will cover issues such as the implications of the implementation of the EU Network Codes Requirements for Generators (RfG), as well as capturing any other updates and changes required.

A full list of the revisions and their page references is included in appendix 1.

Public Consultation

A DCRP public consultation was held between 17 March and 14 April.
Comments were received from BEAMA, Northern Powergrid and Wester Power Distribution. Please see appendix 2.

All comments were accepted and included in the final drafts.

Panel Request.

As the ENA DG Connection Guides are A annex 2 qualifying standard[1] to the Distribution Code and as such it is in the Panel's governance remit to approve publication of the Guides.

The DG Connection Guides can be found here.

The Panel is requested to approve the publication of the Guides.

[1] A electricity industry national standard that has a material effect on Users but does not implement any Distribution Code requirements and does not form part of the Distribution Code technical requirements.

Summary Sheet

Updates / Additions in the DG Guides	G59 Full	G59 50 kW	G83 Multi	G83 Single	G59 Full (sum)	G59 50 kW (sum)	G83 Multi (sum)	G83 Single (sum)
1. New page explaining the connection process for Storage	✓	✓	✓	✓	✓	✓	✓	✓
2. New text on energy storage, including reference to Energy Storage Further Information Request and the IET code of practice / fast track application.	✓	✓	✓	✓				
3. Updated throughout to reflect CFDs	✓	✓	✓	✓				
4. DNO clarification about location specific or connection risk and EU winter package	✓	✓	✓	✓				
5. Updated text regarding RfG	✓	✓	✓	✓				
6. Included words on manufacturer responsibility for type testing documentation (Type Test Verification Report Register)	✓	✓	✓	✓				
7. Updated DNOs map and IDNO list	✓	✓	✓	✓				
8. Included Aggregator under " Key Organisations"	✓	✓	✓	✓				
9. Added text regarding Ofgem consultation and separation from TO	✓	✓	✓	✓				
10. Revised "Network Innovation Projects" text to (1) remove reference to LCNF, and (2) note the Ofgem NIA / NIC review	✓	✓	✓	✓				
11. New subsection added on T&D interfaces, with link to ENA TDI Steering Group. Renamed section heading to make it broader than Network Innovation	✓	✓	✓	✓				
12. Wording about ICE, DG Forum	✓	✓	✓					
13. Included paragraph " Alternative Connections"	✓							
14. Updated regarding Queue Management	✓							
15. Updated tariffs and FIT example	✓	✓	✓	✓				
16. New page explaining the introduction of the deployment caps	✓	✓	✓	✓	✓	✓	✓	✓
17. Significant revisions to the ROC / CFD chapter, so that the emphasis is on CFDs (now that the RO has closed).	✓							
18. Updated throughout to BEIS instead of DECC	✓	✓	✓	✓	✓	✓	✓	✓
19. Included terms “Aggregator” and/or “CfD”	✓	✓	✓	✓				
20. Implemented relevant changes from Full Guides in the Summary Guides, e.g. CFD / ROC changes; additional information on Energy Storage.	✓	✓	✓	✓				

BEAMA response DCRP / 17 / 04 DGCG

Q 1. Do you agree that the proposed modifications to the guides achieve the Distribution Code Objectives?

Yes, we are particularly pleased to see the amendments made regarding the inclusion of storage and specifically the new fast track process for approvals under G59. BEAMA have reviewed the draft process as proposed by the ENA 'Application process for EREC G83 Energy Storage Devices'. And the proposal as follows:

It is expected that the majority of small scale Energy Storage schemes will be as described below:
An LV installation, nominally a domestic property with a 100 Amp single phase service (it is accepted in some areas this may be lower), where the customer:
a) has an existing PV installation (or other DG type) that conforms with EREC G83 requirements, and wishes to install a battery storage device via a separate EREC G83 type tested invertor;
b) wishes to install both a new PV (or other DG type) scheme and battery storage device via two separate EREC G83 type tested invertors

Nominally this would require a G59 application with a response required from the DNO within 45 days (GSoP). It is therefore proposed to offer the following solution.
1) Where the scheme is in accordance with a) or b) above, that the installation comprises of an EREC G100 'type tested' export management scheme that would guarantee export is limited to 16A per phase;
2) The customer applies to the DNO using an online application form;
3) If all the criteria are met the customer is given instant approval1 to connect
It is deemed that the risk to the networks is minimal and therefore a fast tracked EREC G59 process such as this can be implemented. This would require a simplified application to the DNO, with DNO acceptance provided without the need for a network assessment or witness test.

BEAMA support this proposal and would encourage its implementation as soon as possible, preferably before the autumn deadline outlined in this consultation. The 45 day approval timeline does provide a barrier for the market and this can be especially damaging during the early stages of a new market like that for building energy storage.

One activity that ENA should be mindful off in the publication of the amended guidance is that currently being undertaken by BEIS and Ofgem to review the regulatory approach for storage. This was consulted on in the BEIS Ofgem Call for Evidence on smart flexible energy systems back in January. The approaches outlined vary but could result in changes to primary legislation and the definition of storage. This could ensure it is still classified as a sub set of generation, or an entirely new asset class. Depending on this some reference to these changes would need to be made to the guidance and could influence how storage is handled under the regulatory framework determining connection agreements etc. This is more a point for future consideration as and when a decision is made on this. The classification of storage as a generation asset can be limiting to the applications available but also determines how this is dealt with from a regulatory perspective.

We are keen to continue engagement with the ENA on these matters and assist in the prompt implementation of the new fast track process. Should you have any questions relating to this please do not hesitate to contact BEAMA - Yselkla.farmer@beama.org.uk

Date	Document	Project Nr.
13 April 2017	**G59 Body 50kW Detailed Guide**	**DCRP1704**

Name/Organisation; Alan Creighton, Northern Powergrid

Page No	**Clause/ Subclause**	**Paragraph Figure/ Table**	**Type of comment** (General/ Technical/Editorial)	**COMMENTS**	**Proposed change**	**OBSERVATIONS OF THE SECRETARIAT** on each comment submitted
21	C	Storage	Technical	Confirmation that if the aggregate of storage and generation exceeds 16A then G59 applies – rather than should apply.	…..connected generation is likely to be above 16A / phase and G59 applies.	

Date	Document	Project Nr.
13 April 2017	**G59 Body Detailed Guide**	**DCRP1704**

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Page No	**Clause/ Subclause**	**Paragraph Figure/ Table**	**Type of comment** (General/ Technical/Editorial)	**COMMENTS**	**Proposed change**	**OBSERVATIONS OF THE SECRETARIAT** on each comment submitted
12			Editorial	Clarify that Network operators and suppliers may procure services via aggregators	Aggregators Aggregators specialise in co-ordinating demand and generation (including storage) to provide demand response and other market services. Network operators and Suppliers may buy demand response and other grid balancing services from aggregators.	
14			Editorial	I think that the ENA TDI group has been disbanded and replaced by the TSO DSO group – worth checking the ENA website	Add clarity	
30			Editorial	Clarify that storage does not need to be used as part of a generation scheme – it can be installed on its own	Add clarity	
30			Editorial	Clarify that in this case G59 applies – rather than 'should apply'	If you are planning to use storage in conjunction with PV to offset consumption in your home, the total connected generation is likely to be above 16A / phase and G59 applies.	
38			Editorial	I looked for a copy of this, but couldn't find it. An example of a completed application form is given on the ENA website.	Check link	
38			Editorial	Missing words	…., either as specified in the Grid Code, or the DNOs site specific Bilateral Connection Agreement that it has with NGET.	

Page No	Clause/ Subclause	Paragraph Figure/ Table	Type of comment (General/ Technical/Editorial)	COMMENTS	Proposed change	OBSERVATIONS OF THE SECRETARIAT on each comment submitted
74			Editorial	Revise the definition of an Aggregator (singular)	Aggregator: An organisation which specialise in co-ordinating demand and generation (including storage) to provide demand response and other market services. Network operators and Suppliers may buy demand response and other grid balancing services from aggregators.	

Date	Document	Project Nr.
13 April 2017	**G59 Body Summary Guide**	**DCRP1704**

Name/Organisation – Alan Creighton, Northern Powergrid

Page No	**Clause/ Subclause**	**Paragraph Figure/ Table**	**Type of comment** (General/ Technical/Editorial)	**COMMENTS**	**Proposed change**	**OBSERVATIONS OF THE SECRETARIAT** on each comment submitted
7			Editorial	Include link to the ENA website… complete a Further Information Request, available on the ENA website.	Include link to the ENA website…	
11			Editorial	The section contains the text: FITs are subject to "**deployment caps**" - this is a limit on the capacity that can receive a particular FIT tariff, in a particular tariff period. **To find out more, please see Ofgem's website.**	Add link to Ofgem website.	

Date	Document	Project Nr.
13 April 2017	**G83 Single Body Detailed Guide**	**DCRP1704**

Name/Organisation; Alan Creighton, Northern Powergrid

Page No	**Clause/ Subclause**	**Paragraph Figure/ Table**	**Type of comment** (General/ Technical/Editorial)	**COMMENTS**	**Proposed change**	**OBSERVATIONS OF THE SECRETARIAT** on each comment submitted
21	C	Storage	Technical	Confirmation that if the aggregate of storage and generation exceeds 16A then G59 applies – rather than should apply.	…..connected generation is likely to be above 16A / phase and G59 applies.	

Similar comments apply to the G83 Multiple premise guide.

Date	Document	Project Nr.
13 April 2017	**G83 Single, Body Summary Guide**	**DCRP1704**

Name/Organisation – Alan Creighton, Northern Powergrid

Page No	Clause/ Subclause	Paragraph Figure/ Table	Type of comment (General/ Technical/Editorial)	COMMENTS	Proposed change	OBSERVATIONS OF THE SECRETARIAT on each comment submitted
1			Technical		Clarify in the scope that this document applies where the aggregate capacity of the DG and any Storage is <16A per phase. It would be good to be clear that the definition of generating unit or SSEG includes storage devices.	
5	C	3	Technical	The section contains the text: This information is captured on an "**installation commissioning confirmation**" form, which is given in Appendix 3 of EREC G83. The form should include both generation and storage details as applicable.	Review the text in the guide or the application form in ER G83 to add storage in the list of SSEG devices. At the moment it's not clear from the application form itself that information re storage needs to be provided.	
7	F		Editorial	The section contains the text: FITs are subject to "**deployment caps**" - this is a limit on the capacity that can receive a particular FIT tariff, in a particular tariff period. **To find out more, please see Ofgem's website.**	Add hyperlink to Ofgem website.	

Similar comments apply to the G83 Multiple premise guide.

Date	Document	Project Nr.
13 April 2017	**G83 Single End Guide**	**DCRP1704**

Name/Organisation; Alan Creighton, Northern Powergrid

Page No	Clause/ Subclause	Paragraph Figure/ Table	Type of comment (General/ Technical/Editorial)	COMMENTS	Proposed change	OBSERVATIONS OF THE SECRETARIAT on each comment submitted
26			Editorial	Is it possible to provide further information on the Deployment Cap e.g. is there any visibility on how much of a particular technology has been connected or indeed if the cap has already been exceeded. Is there any information on this on the Ofgem website	Consider if it's possible to provide further guidance / link.	

Similar comments apply to the G83 Multiple premise.

Date	Document	Project Nr.
13 April 2017	**G83 Single Glosssary**	**DCRP1704**

Name/Organisation; Alan Creighton, Northern Powergrid

Page No	Clause/ Subclause	Paragraph Figure/ Table	Type of comment (General/ Technical/Editorial)	COMMENTS	Proposed change	OBSERVATIONS OF THE SECRETARIAT on each comment submitted
29			Editorial	The definition should be Aggregator (without the 's') Clarify that network operators 'may' buy demand response – and that suppliers may also use the services of aggregators.	Aggregator: An organisation which specialise in co-ordinating demand and generation (including storage) to provide demand response and other market services. Network operators and suppliers may buy demand response and other grid balancing services from aggregators.	

Similar comments apply to the G83 Multiple premise

Date	Document	Project Nr.
	3 - BODY - DGCG Mar 2017	**DCRP1704**

Name/Organisation – Western Power Distribution

Page No	Clause/ Subclause	Paragraph Figure/ Table	Type of comment (General/ Technical/Editorial)	COMMENTS	Proposed change	OBSERVATIONS OF THE SECRETARIAT on each comment submitted
30	Energy Storage	Para 1	T	DNOs treat storage as both demand and generation	"DNOs treat storage as both storage and generation"	
30	Energy Storage	Para 2	T	Use of a fast track process does not remove the need to comply with G59. See proposed change.	If you are planning to use storage in conjunction with PV to offset consumption in your home, the total connected generation is likely to apply and hence the G59 application process applies. By Autumn 2017 the ENA expects to have implemented a fast track G59 application process for domestic scale storage. This will take the form of an online tool and is expected to reduce the connection time from 45 days to 10 days or less. If the storage is intended to be operated in island mode (during a power outage) the fast track process is not applicable and the standard G59 process is used instead.	

Date	Document	Project Nr.
	4 - BODY - DGCG 50kW Mar 2017	**DCRP1704**

Name/Organisation – Western Power Distribution

Page No	Clause/ Subclause	Paragraph Figure/ Table	Type of comment (General/ Technical/Editorial)	COMMENTS	Proposed change	OBSERVATIONS OF THE SECRETARIAT on each comment submitted
23	Energy Storage	Para 1	T	DNOs treat storage as both demand and generation	"DNOs treat storage as both storage and generation"	
23	Energy Storage	Para 2	T	Use of a fast track process does not remove the need to comply with G59. See proposed change.	If you are planning to use storage in conjunction with PV to offset consumption in your home, the total connected generation is likely to apply and hence the G59 application process applies. By Autumn 2017 the ENA expects to have implemented a fast track G59 application process for domestic scale storage. This will take the form of an online tool and is expected to reduce the connection time from 45 days to 10 days or less. If the storage is intended to be operated in island mode (during a power outage) the fast track process is not applicable and the standard G59 process is used instead.	

Date	Document	Project Nr.
	4 – BODY – DGCG G83 Multiple Mar 2017	**DCRP1704**

Name/Organisation: Western Power Distribution

Page No	Clause/ Subclause	Paragraph Figure/ Table	Type of comment (General/ Technical/Editorial)	COMMENTS	Proposed change	OBSERVATIONS OF THE SECRETARIAT on each comment submitted
23	Energy Storage	1st para	T	DNOs treat storage as both demand and generation	Add “demand”	
23	Energy Storage	2nd para	T	Use of a fast track process does not remove the need to comply with G59. See proposed change.	If you are planning to use storage in conjunction with PV to offset consumption in your home, the total connected generation is likely to apply and hence the G59 application process applies. By Autumn 2017 the ENA expects to have implemented a fast track G59 application process for domestic scale storage. This will take the form of an online tool and is expected to reduce the connection time from 45 days to 10 days or less. If the storage is intended to be operated in island mode (during a power outage) the fast track process is not applicable and the standard G59 process is used instead.	

Date	Document	Project Nr.
	4 BODY - DGCG G83 Single Mar 2017	**DCRP1704**

Name/Organisation: Western Power Distribution

Page No	Clause/ Subclause	Paragraph Figure/ Table	Type of comment (General/ Technical/Editorial)	COMMENTS	Proposed change	OBSERVATIONS OF THE SECRETARIAT on each comment submitted
21	Energy Storage	1st para	T	DNOs treat storage as both demand and generation	Add “demand”	
21	Energy Storage	2nd para	T	Use of a fast track process does not remove the need to comply with G59. See proposed change.	If you are planning to use storage in conjunction with PV to offset consumption in your home, the total connected generation is likely to apply and hence the G59 application process applies. By Autumn 2017 the ENA expects to have implemented a fast track G59 application process for domestic scale storage. This will take the form of an online tool and is expected to reduce the connection time from 45 days to 10 days or less. If the storage is intended to be operated in island mode (during a power outage) the fast track process is not applicable and the standard G59 process is used instead.	

Date	Document **2 BODY - DCGG G59 Summary Mar 2017**	Project Nr. **DCRP1704**

Name/Organisation – Western Power Distribution

Page No	Clause/ Subclause	Paragraph Figure/ Table	Type of comment (General/ Technical/Editorial)	COMMENTS	Proposed change	OBSERVATIONS OF THE SECRETARIAT on each comment submitted
7	Energy Storage		T	DNOs treat storage as demand and generation	Add “demand”	