THE DISTRIBUTION CODE OF LICENSED DISTRIBUTION NETWORK OPERATORS OF GREAT BRITAIN

Distribution Code Review Panel

Distribution Code Annex 1 & 2 Qualyfying Standards Review for Ofgem

At the Panel meeting in February 2018 the Authority representative requested that the Panel undertake a review of all Annex I and Annex 2 Qualyfying Standards to ensure they meet the specific DCode criteria for being assigned as a Qualyfying Standard (QS) and those that did not should be removed or reassigned ie Annex 1 to Annex 2 or Annex 2 to a Annex 1 QS. The example given was the approval of ER P25 earlier this year which in the view of Ofgem was not a Annex 1 document and therefore should not have been submitted for approval.

In the Distribution Code Constitution and Rules document V8 (April 2019) Standard Procedure 1 sets out the arrangements for governance of Qualifying Standards established by the Distribution Code Review Panel pursuant to DGC4.2 (h) of the Distribution Code and paragraph 4.1 (h) of the Constitution and Rules of the Panel.

The governance arrangements are applied to those technical standards that have been identified as having a material affect on Users. All Annex 1 Standards and Annex 2 Standards are owned by the DNOs and developed by a **transparent and inclusive process** through the Panel with appropriate consultation and publicity as determined in accordance with Standard Procedure 1 and as otherwise determined by resolution of the Panel.

DNOs and Users, and the Authority on behalf of Users in relation to individual DNO Standards, may raise issues on Qualifying Standards in the Panel subject to a materiality test applied by the Panel. The materiality test may be applied to the standard itself and/or to the applicability of the standard in particular circumstances. **It is a prerequisite that the standard or part of the standard subject to review must impose technical obligations on a User before it may be reviewed by the Panel.**

The following are indicative of the issues to be taken into account in when considering materiality:

1. The DNOs statutory and licence obligations;
2. Impact on industry commercial arrangements;
3. Impact on competition;
4. Impact on industry developments such as distributed generation;
5. Impact on the cost of and practicability of User connections;
6. Impact on the cost and practicability of User operations;
7. Impact on the cost and practicability and performance of DNO network provision;
8. Impact on the cost and practicability and performance of DNO operations; and
9. Potential for change to the standard or its application and the cost of review

U. Users obligation under legislation and/or DCode

With the approval of ER G98 and G99 there are now 13 Annex 1 Qualyfying standards and six Annex 2 Qualyfying standards and can be found in appendix 1 of this paper.

Panel Recommendation

The Panel is asked to consider the initial assessment (no change or reassingn) of the current qualifying standards against the materiality criteria 1-U as set out in appendix 1.

Appendix 1

Annex 1 Qualyfying standards

	Standard	*Rationale*	*Recommendation*	*Materiality*
1	**ER G5/4-1**	***Planning levels for harmonic voltage distortion and the connection of non-linear equipment to transmission and distribution systems in the United Kingdom***. The rationale for **no change** for this Engineering Recommendation (ER) being assigned as a Qualyfying Standard Annex 1 is that it is set out in DPC4.2.3.2 (b) (Voltage Disturbances) that the requirements of ER G5 apply to Users loads. (b) i.e. *The harmonic content of a load shall comply with the limits set out in ER G5,*	A1	12345678U DPC4.2.3.2
2	**ER G12/4-1**	***Requirements for the application of protective multiple earthing to low voltage networks.*** The rationale for **no change** for this Engineering Recommendation (ER) being assigned as a Qualyfying Standard Annex 1 is that it is set out in DPC4.3.2 that a User can request from a DNO such information, as may be reasonably required, on the design and other characteristics of the DNO's Distribution System. The design practice for protective multiple earthing is detailed in G12. Comment: Whilst the way G12 is referenced in the DCode, suggests that it is guidance scanning through the document it looks like G12 does set out things that must / shall be achieved when a DNO is developing a PME system. However I suspect that G12 implements ESQCR / PME regulations rather than DCode requirements, so this too feels lie an A2 document.	A1	14578U DPC4.3.2
3	**ER P2/6 PO-PS-37**	***Security of Supply and Distribution planning standards of voltage and of security of supply. (Parts of Scottish Hydro Electric Power Distribution Ltd Area)*** The rationale for **no change** to both these Engineering Recommendations (ER) being assigned as a Qualyfying Standard Annex 1 is that both documents are a Licence Condition (SCL 24)	A1	1245678 Licence requirement
4	**ER P24**	***AC traction supplies to Network Rail.*** The rationale for **no change** for this Engineering Recommendation (ER) being assigned as a Qualyfying Standard Annex 1 is that it is set out in DPC4.2.3.2 (d) (Voltage Distrubances) Distortion of the System voltage waveform, caused by certain types of Equipment, may	A1	5678U DPC4.2.3.2 (d)

		result in annoyance to Users of the DNO's Distribution System or damage to connected Apparatus. In order to limit these effects Traction supplies shall comply as appropriate with the requirements of ER P24.		
5	**ER P25**	***The short-circuit characteristics of single-phase and three-phase low voltage distribution networks*** The rationale for **no change** for this Engineering Recommendation (ER) being assigned as a Qualyfying Standard Annex 1 is that it is set out in DPC4.3.2 that a User can request from a DNO such information, as may be reasonably required, on the design and other characteristics of the DNO's Distribution System. Guidance on the short circuit characteristics of the Low Voltage System and associated supplies is P25. Comment: I've looked through P25 and I feel that it provides guidance on the design of LV network rather than place any new obligations / requirements on either DNOs or Users. The words shall / must don't appear in the document. Hence this feels more like an A2 rather than an A1 document	A1	45678 DPC4.3.2 DPC4.4.1 (d) DPC6.5.1
6	**ER P28**	**Planning limits for voltage fluctuations caused by industrial, commercial and domestic equipment in the United Kingdom.** The rationale for **no change** for this Engineering Recommendation (ER) being assigned as a Qualyfying Standard Annex 1 is that it is set out in DPC4.2.3.2 and DPC4.2.3.3. DPC 4.2.3.2 (a) - Distortion of the System voltage waveform, caused by certain types of Equipment, may result in annoyance to **Users** of the DNO's Distribution System or damage to connected Apparatus. In order to limit these effects the following shall apply to **Users**' loads connected to the DNO's Distribution System (a)Voltage fluctuations shall comply with the limits set out in P28 DPC4.2.3.3 sets out the requirements for Voltage Step Changes. The effect of voltage step changes caused by the connection and disconnection of **User's** Equipment or Customer's Demand to or from the DNO's Distribution System must be considered and be subject to limits to avoid unacceptable voltage changes being experienced by other Customers connected to the DNO's Distribution System. **User's** installations should be designed such that transformer magnetising inrush current associated with normal routine switching operations does not cause voltage fluctuations outside those in ER P28	A1	145678U DPC4.2.3.2 DPC4.2.3.3

7	**ER P29**	**Planning limits for voltage unbalance in the United Kingdom for 132kV and below.** The rationale for **no change** for this Engineering Recommendation (ER) being assigned as a Qualyfying Standard Annex 1 is that it is set out in DPC4.2.3.2 (c) (Voltage Disturbances) and that distortion of the system voltage waveform, caused by certain types of equipment, may result in annoyance to **Users** of the DNO's Distribution System or damage to connected Apparatus. In order to limit these effects the following shall apply to Users' loads connected to the DNO's Distribution System. (c)Phase (Voltage) Unbalance shall comply with the levels laid down in P29.	A1	145678U DPC4.2.3.2
8	**TS 41-24**	***Guidance for the design, installation, testing and maintenance of main earthing systems in substations*** The rationale for this Engineering Recommendation (ER) being **re-assigned** as a Qualyfying Standard Annex 2 is that the technical specification applies to fixed earthing systems for all Electricity Supply Industry AC transmission and distribution systems in the UK and equipment earthing within EHV, HV and HV/LV substations. The arrangements for connecting the DNO's Distribution System with earth shall be designed to comply with the requirements of the ESQCR and relevant European and British Standards. This is a DNO/TSO facing document.	A2	178 DNO (ESQCR) DPC4.4.2
9	**ER S34**	***A guide for assessing the rise of earth potential at substation sites.*** The rationale for this Engineering Recommendation (ER) being **re-assigned** as a Qualyfying Standard Annex 2 is that the technical specification applies to fixed earthing systems for all Electricity Supply Industry AC transmission and distribution systems in the UK and equipment earthing within EHV, HV and HV/LV substations. The arrangements for connecting the DNO's Distribution System with earth shall be designed to comply with the requirements of the ESQCR and relevant European and British Standards. This is a DNO/TSO facing document	A2	178 DNO (ESQCR) DPC4.4.2
10	**ER G59/3-4**	***Recommendation for the connection of generating plant to the distribution systems of licensed distribution network operators*** (not applicable for new connections post 27/4/19)	A1	12345678 U DPC7
11	**ER G83/2-1**	***Recommendations For The Connection of Type Tested Small-Scale Embedded Generators (Up To 16 A Per Phase) In Parallel With Public Low-Voltage***	A1	12345678 U DPC7

		Distribution Networks (not applicable for new connections post 27/4/19)		
12	**ER G98/1**	Requirements for the connection of Fully Type Tested Micro-generators (up to and including 16 A per phase) in parallel with public Low Voltage Distribution Networks on or after 17 May 2019 The rationale for **no change** for this Engineering Recommendation (ER) being assigned as a Qualyfying Standard Annex 1 is that frombset 27 April 2019 new or substantially modified Power Generating Modules must comply with the European Network Code on Requirements for Connection of Generators. Compliance with Engineering Recommendations G98 and G99 will ensure compliance with this European Network Code.	A1	12345678 U DPC7.1.5
13	ER G99/1	Requirements for the connection of generation equipment in parallel with public distribution networks on or after 17 May 2019 The rationale for **no change** for this Engineering Recommendation (ER) being assigned as a Qualyfying Standard Annex 1 is that frombset 27 April 2019 new or substantially modified Power Generating Modules must comply with the European Network Code on Requirements for Connection of Generators. Compliance with Engineering Recommendations G98 and G99 will ensure compliance with this European Network Code.	A1	12345678 U DPC7.1.5

Annex 2 Qualyfying standards

	Standard	***Rationale***	***Recommendation***	***Materiality***
1	ER G81	Framework for design and planning, materials specification and installation and record for Greenfield low voltage housing estate installations and associated, new, HV/LV distribution substations	A2	12345678 ICPs/IDNOs
2	ETR 130-1	Application Guide for assessing the Capacity of Networks Containing Distributed Generation The rationale for this Engineering Report (EREP) being **re-assigned** as a Qualyfying Standard Annex 1 is that EREP 130 Issue 3 (when implemented) sets out requirements of what a DNO must / shall do in order to comply with P2 which is another A1 document. Hence it implements a DCode requirement to comply with P2.	A1	1245678

3	ETR 131	Analysis Package for Assessing Generation Security Capability – Users' Guide	A2	1245678
4	ER P18	Complexities of 132kV circuits.	A2	5678 DNOs
5	ER G87	Guidelines for the Provision of Low Voltage Connections to Multiple Occupancy Buildings	A2	5678 DNOs
6	DGCGs	DG Connection Guides (published by Energy Networks Association)	A2	14 SLC 25a

11 Annex 1 QSs

8 Annex 2 QSs