

Distribution Code Consultation Response Proforma

DCRP/21/02/PC: Distribution Code EREC G100 Issue 2: Technical Requirements for Customers' Export and Import Limitation Schemes

Stakeholders are invited to respond to this consultation, expressing their views or providing any further evidence on any of the matters contained within the consultation document. Stakeholders are invited to supply the rationale for their responses to the set questions.

Please send your responses and comments by **17:00, 3rd December 2021** to dcode@energynetworks.org and please title your email 'Consultation Response DCRP/21/02/PC – EREC G100 Issue 2. Please note that any responses received after the deadline may not receive due consideration by the Working Group.

Any queries on the content of the consultation pro-forma should be addressed to DCode Administrator on 020 7706 5105, or to dcode@energynetworks.org

Respondent	Robert McNally
Company Name	Eaton
No. of DCode Stakeholders Represented	1
Stakeholders represented	Eaton
Role of Respondent	Supplier
We intend to publish the consultation responses on the DCode website. Do you agree to this response being published on the DCode website? [Y/N]	Yes

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	Question	Response
Q1	Do you agree with the general intent of the proposed modification? If not, please explain your views.	Yes
Q2	Do you agree that the revised EREC G100 should be included in the Distribution Code (as a new requirement by reference in DPC6), be listed in Annex 1 and included under Distribution Code governance in the future?	In principle this would be a good aim, but the document currently has some high-level clauses that can be interpreted in different ways and no standard decision process is indicated. An example of this is the discussion of common mode failure in the design limits section 4.4. This can be expected to involve debate on a site-specific basis leading to inconsistent application.
Q3	Do you agree that the proposed modifications satisfy the applicable Distribution Code objectives? If not, please explain your concerns.	Not fully for reasons below
Q4	Do you support the formal description of the states of operation and the migration between them?	<p>Not fully. Maximum response time of 5 seconds currently required by G100 was seen as restrictive for some technologies. This is understood, but it would seem unnecessary and restrictive for existing G100 compliant systems to require extensive re-design for state 2 and state 3 operation and the voltage monitoring based responses required by transition to state 3.</p> <p>A solution would be an option for a compliant State 1 only CLS, designed and type tested to restrict excursions into state 2 to less than 5 seconds and fail safe if any excursion is greater than 5 seconds.</p>
Q5	Do you agree with the fail safe approach, and with the excessive state 2 operation criteria? If not, would you propose different criteria?	<p>Agreed in principle. Alternatives to fail safe description should include the same text from 4.10:</p> <p>“shall be fitted at the Connection Point and arranged to trip either the whole site, or appropriate Devices, within 1 minute (or 3 minutes for appropriate technologies and no other limitation on voltage rise”</p> <p>It should also be stated that a type tested CLS can use alternatives to fail safe (to be specified on the Form in Appendix B).</p>
Q6	Do you agree with the proposed approach to resetting the limitation scheme and recovering from state 3? In particular do you agree that it is appropriate to distinguish the capability to reset	No. A time limited lock out is reasonable but locking a domestic customer permanently out of their system would need to be further justified based on safety or operational risk balanced against the potential impact on customers, bearing in mind the CLS does not belong to the DNO. The reasons should be stated in G100. Is there

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	Question	Response
	the CLS between domestic and commercial/industrial installations? An alternative would be to make a distinction between fully type tested CLSs and those which are not fully type tested; the WG would be interested in views on this.	any similar precedent for electrical protection on customer installations? The customer is already prevented from changing CLS settings and the fail-safe requirements are clear, which seems adequate to cover risk.
Q7	Do you agree with the revised design limits? Do you support the thresholds now proposed?	<p>No.</p> <p>BS 7671 regulation 722.311.201 states that load curtailment can be taken into account when determining maximum demand for EV charging installations.</p> <p>There may be similar regs for other controllable load.</p> <p>These load curtailment systems may be part of the 'other systems' mentioned in state 1 description, or they may be G100 CLS also controlling embedded generation and storage to ensure MEL and MIL are respected.</p> <p>G100 should recognise the possibility to safely connect higher levels of generation and load under CLS control, if suitable overload and reverse power protection are in place within a customer installation to ensure that any exceedance of design limits can be tolerated safely and without impacting the operation of DNO infrastructure. i.e. with protection that discriminates fully with the DNO protection.</p>
Q8	Do you support the approach to communication media? Do you agree with the suggested approach to cyber security?	
Q9	Do you have any comments on the requirement to monitor the integrity of the secondary circuit of the current transformers used?	This does not appear to be a standard function of any widely available power meters
Q10	Do you support the approach proposed for multiple limitation devices installed in a single premise?	
Q11	Do you have any comments on the proposals for domestic installations?	See above

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	Question	Response
Q12	Do you have any comments on the proposed type testing regime?	This can only be properly assessed after testing a CLS to the new G100. Has this been simulated in any way to assist in writing the document?
Q13	Is there the right balance of principle and detail in Section 5 on testing? Do you have any detailed comments on how testing should be prescribed?	The balance appears to be suitable, but as above this can only be properly assessed after testing a CLS to the new G100.
Q14	Do you agree that the addition Figure 0-1 in the Introduction of EREC G100 aids understanding of the relationship between EREC G100 and flexibility services that the customer might be providing? If not, can you suggest any improvements?	Yes but It should be clarified that modulation in the unconstrained operation area does not require G100 compliance.
Q15	Do you agree with requirement in EREC G100 to only provide a schematic diagram, with any operational diagram for generation remaining to be as specified in EREC G99 (or G98, 59 or 83)?	Yes
Q16	Do you agree that the 5s period before an excursion into state 2 is registered is appropriate? If not, please state what you think might be an appropriate approach.	This seems appropriate although it is not clear how 5s was chosen. If a longer duration can be tolerated it would enable larger systems to respond smoothly.
Q17	Do you agree that is appropriate to allow remote resetting of state 3?	Yes
Q18	Do you agree that fully type tested CLSs should be tested at three current settings, viz maximum, minimum and one intermediate point? If not please suggest.	Yes
Q19	If you have any detailed comments on the proposed drafting, please provide those	

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	Question	Response
	comments in the proforma provided, or by marking up the consultation draft of G100.	

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Please provide comments relating to the specific technical content of the proposed modifications¹

Page / line No	Clause/ Subclause	Paragraph Figure/ Table	Type of comment (General/ Technical/Editorial)	COMMENTS	Proposed change	OBSERVATIONS OF THE SECRETARIAT on each comment submitted
10	Current Rating		Technical	Current Rating here is clear but note that G99 11.1.5 requires a range for power factor that would increase the current at registered capacity.		
	Appendix D			Examples still use 1.25 x fuse rating	Change to 1.45	

¹ Add more rows if required