

# Distribution Code Consultation Response Proforma

## DCRP/20/06/PC: Dcode Storage Modification

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, 12<sup>th</sup> February 2021** to [dcode@energynetworks.org](mailto:dcode@energynetworks.org) and please title your email 'Consultation Response DCRP/20/06/PC DCode Storage Modification'. 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](mailto:dcode@energynetworks.org)

<b>Respondent</b>	Alan Creighton
<b>Company Name</b>	Northern Powergrid
<b>No. of DCode Stakeholders Represented</b>	
<b>Stakeholders represented</b>	
<b>Role of Respondent</b>	Distributor
<b>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]</b>	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 proposed modifications satisfy the applicable Distribution Code objectives? If not, please explain your concerns.	Yes.
Q3	Do you agree with the approach to a timed future implementation and do you agree with the suggested date?	Yes. This will provide certainty for storage device manufacturers, although we would be guided by the feedback from device manufacturers on whether the proposed implementation of 1 September 2022 is reasonable.
Q4	Do you agree with the inclusion of mandatory cessation of active power import, and change to generating mode, on falling frequency and do you agree with the thresholds suggested? If you disagree, please explain why.	<p>Yes. This functionality will provide system resilience for an incident on the transmission system resulting in falling system frequency. The restriction on import is likely to last for a relatively short period of time so is unlikely to adversely affect the customer.</p> <p>We can, however, see that this functionality could be seen as one that could be a commercial service rather than a mandated performance requirement. If a mandated service can be integrated into the design of a device and its deployment has a minimal impact on the customer owning or operating the device, but offers a material benefit for customers generally (e.g. reduced NGESO balancing costs), then mandating such a performance requirement should be seriously considered.</p> <p>We understand that the requirement aligns with that emerging from the European Stakeholder Committee Expert Group on Storage which reported in June 2020, and which is expected to be included in a revision of the EU Network Code RfG in the next couple of years. There is a risk that the requirement proposed in EREC G98 and EREC G99 is different from the requirements in a revised RfG, although any differences are likely ones that could be addressed by software modifications rather than being fundamentally different.</p> <p>The proposed EREC G98 and EREC G99 requirements align with those considered by NGESO in</p>

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		the Grid Code GC0096 Modification process and hence presumably meets their requirements. We are aware that NGEN are currently reviewing the management of system frequency (as a consequence of SQSS Modification GSR027) and this review may identify that the proposed functionality should start to operate at a frequency other than 49.5Hz, however, this is something that could probably be changed via a software modification if required.
Q5	Do you agree with the general approach taken to V2G requirements? If not, please state what you think is incorrect and inappropriate and please suggest any alternative approaches.	Yes. V2G, when exporting, acts in the same way as a storage device fixed in a customer's installation, so it seems reasonable that V2G and fixed storage should be subject to the same requirements.
Q6	Do you foresee that V2G will be needed for EVs of under 3.6kW registered generating capacity? If so, this would require appropriate drafting to be included in G98.	No. In our experience V2G applications tend to be greater than 3.6kW e.g. 7kW (Nissan) and 6kW (OVO Energy trial).
Q7	Do you agree that DNOs should insist on formal Equipment Certificates for vehicle manufacturers to demonstrate compliance of V2G capabilities? If you disagree, please explain why.	Yes. However we can see some practical difficulties associated with the application of V2G Equipment Certificates and believe that there needs to be further discussions with vehicle manufacturers to make the process of a customer demonstrating compliance as easy as possible, for example if all vehicles sold in GB with AC coupled V2G capability complied with the requirements of EREC G99.
Q8	Do you have any comments on the proposed EVCP, Heat Pumps, V2G application form (Appendix 3) or the proposed connection process flowchart (Appendix 2) for all domestic customers?	<p>The development of application forms and a connection process common to all DNOs is important as it will simplify and provide transparency of the connection process for customers. Hence it is important that ENA take into account the feedback received from stakeholders as part of this consultation. We have the following comments on the application form and process flowchart:</p> <p><b>Connection process flowchart</b></p> <ol style="list-style-type: none"> <li>1. The flow diagram looks very congested and opportunities should be taken to simplify its appearance e.g. by minimising the number of 'dog legs' in the connectors and including the notes on separate pages.</li> <li>2. It may help to clarify the audience of the flowchart – is it an installer or customer?</li> </ol>

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		<p>3. Many of the notes could be drafted more clearly. The following examples illustrate the additional clarity that redrafting could bring.</p> <ul style="list-style-type: none"> <li>a. <b>Note 1.</b> This process should be followed for installation of a Heat Pump, Electric Vehicle Charge Point or a V2G Electric Vehicle Charge Point in a premise already connected to a DNO network. This process should also be followed where a new connection to a DNO network is required, and in this case a new electricity connection application form should also be submitted.</li> <li>b. <b>Note 2.</b> If the cut-out rating is unknown or uncertain, it may be established by initially asking the DNO. If the DNO is unable to confirm without a site visit the 'Apply to Connect' process should be followed. The relevant application form can be downloaded from the ENA website. Please note that the cut-out must not be opened. Guidance on cut-out ratings is available on the ENA website. The rating of the DNO service equipment must be established as being adequate before any new equipment is connected. BS 7671, the IET Wiring Regulations, in section 132-16 'Additions or alterations to an installation' states that 'No addition .....'.</li> <li>c. <b>Note 5.</b> Some DNO cut-outs have more than one DNO service cable terminated in them. This indicates the presence of a Looped Service whereby one or more premises are connected via the cut-out. This may impact the adequacy of the DNO Service Equipment. Looped Services can be found in any premise, but are often found in housing estates built in the 1970s &amp; 1980s, in rural areas and in terraced housing.</li> <li>d. <b>Note 6.</b> The Maximum Demand is the highest level of demand that could occur at the DNO cut-out including the demand of all new HP and EV devices. The maximum .....</li> <li>e. <b>Note 8.</b> Where more than one heat pump with an aggregate rating above 3.68kW (16A) or a DC coupled Electric Vehicle charge point rated above 3.68kW (16A) is to be connected at a single premise, the 'Apply to Connect' process should be followed.</li> <li>f. <b>Note 10.</b> Please see the ENA HP Type Register, ENA Generation Type Test Register (V2G EVCPs) and ENA EV Type Register Database (non V2G, DC</li> </ul>

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		<p>coupled only) on the ENA website here:  <a href="https://www.energynetworks.org/industry-hub/databases">https://www.energynetworks.org/industry-hub/databases</a>. V2G EVCPs must be installed, commissioned and fully type tested in accordance with EREC G99. The V2G EVCP also needs to be fully type tested if the inverter is onboard the vehicle. It is the installer's responsibility to provide all information required to populate the Heat Pump Type Register Database relating to the heat pump they are installing.</p> <ol style="list-style-type: none"> <li>4. The flowchart incorporates a flow pathway where a V2G EV charger is less than 16A, whereas the consultation document and EREC G98 is drafted on the basis that all V2G installations will be greater than 16A. The flowchart, application form, EREC 98 and EREC G99 all need to be aligned. EREC G98 is inappropriately references in Note 10.</li> <li>5. It would be worth checking that the various links to the ENA website are still valid now that the ENA website has been restructured.</li> </ol> <p><b>V2G &amp;HP application form</b></p> <ol style="list-style-type: none"> <li>1. As with the connection process flowchart, the application form would benefit from a review to make sure terms are used consistently and that all defined terms are in bold font (and defined somewhere).</li> <li>2. In the declaration section it's not clear whether the submission relates to an application or a notification. A new checkbox should be added to clarify this. The lack of clarity can cause confusion where the applicant has checked the 'Maximum Demand less than 13.8kVA per phase OR CT metered OR load limited to below the known cut-out fuse rating' box in Section B and also indicated in Section C that the new Maximum Demand at the premise may exceed 60A.</li> <li>3. The application form caters for a V2G EV charger less than 16A, whereas the consultation document and EREC G98 is drafted on the basis that all V2G installations will be greater than 16A. The flowchart, application form, EREC 98 and EREC G99 all need to be aligned. EREC G98 is inappropriately references in Footnote 5.</li> <li>4. Footnote 5 includes the statement that this application form replaces the need to complete the application forms in EREC G98 or G99. It's worth noting that EREC G98 and G99 are in the process of being updated and, subject to consultation, will require</li> </ol>

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		<p>information about the energy storage type and capacity to be recorded. This application form will need to be updated accordingly to collect this information.</p> <p>5. In section F, clarify that the Forms A2-1 or A2-2 or A2-3 are EREC G99 forms.</p> <p>6. It would be helpful to clarify the question relating to looped serves Section B, so that the declaration was a positive statement that the service is not looped e.g. 'Not a looped service' so that if there is any doubt as to whether the service is looped or not, the 'application' process rather than 'notification' process should be followed.</p>
Q9	What do you think of the proposed digitalisation plan outlined in the introduction and do you have any feedback or suggestions on the minimum functional requirements the app should have?	Digitisation of the application form should improve the customer connection experience and enable the DNO to collect information about equipment connected to its network more efficiently than a paper based system.
Q10	Do you agree that the data requirements relating to storage technologies etc should be left to the DCRP working group [Data Exchange Working Group] on data exchange provisions to resolve?	Yes.
Q11	Do you have any comments on the proposed legal text drafting?	<p>We have the following minor suggestions to make.</p> <p><b>EREC G98</b></p> <p><b>Appendix 1, Other exemptions.</b> Delete the semicolon after the word 'For'.</p> <p><b>Annex A1.2.8.</b> Clarify that the tests described are the required tests rather than proposals: Four tests are required, one set of two at rated import capacity, and one set of two at 40% of rated import capacity.</p> <p><b>Annex A2.2.8.</b> Clarify that the tests described are the required tests rather than proposals: Four tests are required, one set of two at rated import capacity, and one set of two at 40% of rated import capacity.</p>

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		<p><b>EREC G99</b></p> <p><b>4.1 Definitions.</b> There is reference to a new defined term Equipment Certificate, yet the new definition seems to be missing.</p> <p><b>Table 6.1.</b> The scenario numbers for scenarios 10, 11 &amp; 12 should be in bold font.</p> <p><b>Figure 6.11 Notes.</b> Rather than including the text ‘The Vehicle to Grid Electric Vehicle in the Customer’s Installation is a Power Generating Unit’, would it be more accurate to say that ‘The Vehicle to Grid Electric Vehicle <b>charging device</b> in the Customer’s Installation is a Power Generating Unit’ as in this case the charge point is what needs to comply with EREC G99, rather than the electric vehicle itself.</p> <p><b>Figure 6.12 Notes.</b> The draft text includes the words ‘The Inverter in the Vehicle to Grid Electric Vehicle is combined with the solar PV and is a Power Park Unit’, however in this example, the inverter is not in the electric vehicle, but forms part of the Customer’s Installation. Would it be more accurate to say ‘<b>The Vehicle to Grid Electric Vehicle Inverter</b> combined with the solar PV and is a Power Park Unit.</p> <p><b>15.1.3</b> The defined term is Customer’s Installation rather than Generators Installation.</p> <p><b>Annex A4.2.3.</b> Might it help clarity to include the implementation date in the explanatory text: .....but is excluded from some of the requirements of this EREC G99 <b>until [01 September 2022]</b>, but included in the <b>Power Generating Facility</b>.</p> <p><b>Annex A7.1.7.</b> Clarify that the tests described are the required tests rather than proposals: Four tests are required, one set of two at rated import capacity, and one set of two at 40% of rated import capacity.</p> <p><b>Annex A7.2.3.2.</b> Clarify that the tests described are the required tests rather than proposals: Four tests are required, one set of two at rated import capacity, and one set of two at 40% of rated import capacity.</p>

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		<p><b>Annex B6.3.</b> Clarify that the tests described are the required tests rather than proposals: Four tests are required, one set of two at rated import capacity, and one set of two at 40% of rated import capacity.</p> <p><b>Annex C9.6.</b> Clarify that the tests described are the required tests rather than proposals: Four tests are required, one set of two at rated import capacity, and one set of two at 40% of rated import capacity.</p>