

GC0102 EU Connection Codes GB Implementation – Mod 3

Industry parties are invited to respond to this consultation expressing their views and supplying the rationale for those views, particularly in respect of any specific questions detailed below.

Please send your responses by **5pm on Thursday 9th November 2017** to grid.code@nationalgrid.com. Please note that any responses received after the deadline or sent to a different email address may not receive due consideration by the Workgroup.

Any queries on the content of the consultation should be forwarded to grid.code@nationalgrid.com with subject clearly stating 'GC0102 Consultation Query'

Respondent:	<i>Garth Graham (garth.graham@sse.com)</i>
Company Name:	<i>SSE</i>
Please express your views regarding the Workgroup Consultation, including rationale. (Please include any issues, suggestions or queries)	<i>For reference, the Grid Code objectives are:</i> <ul style="list-style-type: none"> i. To permit the development, maintenance and operation of an efficient, coordinated and economical system for the transmission of electricity ii. To facilitate competition in the generation and supply of electricity (and without limiting the foregoing, to facilitate the national electricity transmission system being made available to persons authorised to supply or generate electricity on terms which neither prevent nor restrict competition in the supply or generation of electricity) iii. Subject to sub-paragraphs (i) and (ii), to promote the security and efficiency of the electricity generation, transmission and distribution systems in the national electricity transmission system operator area taken as a whole iv. To efficiently discharge the obligations imposed upon the licensee by this license and to comply with the Electricity Regulation and any relevant legally binding decisions of the European Commission and/or the Agency; and v. To promote efficiency in the implementation and administration of the Grid Code arrangements

Standard Workgroup Consultation questions

Q	Question	Response
1	Do you believe that GC0102	ORIGINAL

<p>Original Proposal, or any potential alternatives for change that you wish to suggest, better facilitates the Grid Code Objectives?</p>	<p>We do not believe that GC0102 does better facilitate the Grid Code Objectives as it <u>fails to</u> discharge the obligations imposed upon the licensee by its license and to comply with the Electricity Regulation and any relevant legally binding decisions of the European Commission and/or the Agency.</p> <p>As the National Grid presentation to EnergyUK on 23rd May 2017 noted, in respect of the three connection codes (RfG, DCC and HVDC), the aim of these Network Codes is to “<i>Set consistent technical requirements across EU for new connections of user equipment (e.g. generation / interconnectors)</i>”. This accords with the recitals of the RfG, DCC and HVDC Network Codes.</p> <p>However, as both the Proposer’s explanations to the Workgroup and the legal text makes clear there is not even to be a set of consistent technical requirements across GB (let alone with the EU) for new connections as a result of GC0102 as, for example, apparently many of these multiple technical requirements are, instead, to be determined by the TSO alone, in a non-open / non-transparent way, and applied differently to each new connection. This non-harmonised approach is inconsistent with the EU Network Codes.</p> <p>Furthermore, the imposition of additional costs (such as the requirement for Type B and C generators in terms of a ‘PON’ stage and associated administrative costs to manage) will affect cross border trade between Member States as well as within the Member State (between GB and Northern Ireland) and as such will not be in compliance with Article 8(7) of Regulation 714/2009.</p> <p>In addition to not being better in terms of Objective (iv) the GC0102 Original does not better facilitate the Grid Code Objectives (ii), (iii) and (v) as it:</p> <p>fails to facilitate competition in the generation and supply of electricity (by not complying with EU law – see above – and imposing additional costs on</p>
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	<p>GB generation);</p> <p>fails to promote security and efficiency in electricity generation (by not complying with EU law – see above); and</p> <p>fails to promote efficiency in the implementation and administration of the Grid Code arrangements (by not complying with EU law – see above).</p> <p>POTENTIAL ALTERNATIVE</p> <p>We do believe that the potential alternative (as described on pages 39-47 of the Workgroup consultation) does better facilitate the Grid Code Objectives as it ensures the discharging of the obligations imposed upon the licensee by its license as well as complying with the Electricity Regulation and any relevant legally binding decisions of the European Commission and/or the Agency.</p> <p>As the National Grid presentation to EnergyUK on 23rd May 2017 noted, in respect of the three connection codes (RfG, DCC and HVDC), the aim of these Network Codes is to “<i>Set consistent technical requirements across EU for new connections of user equipment (e.g. generation / interconnectors)</i>”. This accords with the recitals of the RfG, DCC and HVDC Network Codes.</p> <p>It is clear that this potential alternative seeks to ensure that <i>only</i> those obligations applicable to newly connecting parties that fall within the scope of the EU Network Codes will be implemented into the GB national network codes (such as, but not limited to, the Grid Code and Distribution Code) as required by those EU Network Codes.</p> <p>As detailed on pages 39-47 of the Workgroup consultation document there are clear reasons as to why this is required.</p> <p>In addition to being better in terms of Objective (iv) the potential alternative (b) also better facilitates the Grid Code Objectives (ii), (iii) and (v):</p> <p>as by complying with EU law – see above – and</p>
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		<p>not imposing additional costs (over and above those required by law) on GB generation it facilitates competition in the generation and supply of electricity;</p> <p>as by complying with EU law – see above – and not imposing additional costs (over and above those required by law) on GB generation it promotes security and efficiency in electricity generation; and</p> <p>as by complying with EU law – see above – and not imposing additional costs (over and above those required by law) on GB generation it promotes efficiency in the implementation and administration of the Grid Code arrangements.</p>
2	Do you support the proposed implementation approach?	We note the proposed implementation approach set out in Section 10 of the Workgroup document and support that approach.
3	Do you have any other comments?	
4	Do you wish to raise a WG Consultation Alternative Request for the Workgroup to consider?	No.

Specific GC0102 Consultation Questions

Q	Question	Response
5	Do you have any comments on the structure of the proposed relationship between the D Code, G59 and G83, and G98 and G99? In particular which of the three options in Section 3.2 of this consultation do you support and why?	<p>We note that the proposed relationship between the D Code, G59 and G83, and G98 and G99 as set out in (a) the 19th October version of the Workgroup consultation document; and (b) the 3rd November version of the Workgroup consultation document.</p> <p>Given the presentation provided to the G98 and G99 workshop on Tuesday 7th November – which sets out a different proposed relationship between the D Code, G59 and G83, and G98 and G99 to that shown in either the 19th October or 3rd</p>

		November versions of the Workgroup consultation document – we are unable to comment on, or indicate our support for, either the 19 th October or 3 rd November versions of the proposed relationship between the D Code, G59 and G83, and G98 and G99.
6	Do you agree with the organization of G99 and how it applies to the different Types of generation? Do you have any alternative suggestions for structure?	See our answer to Q5.
7	Do you agree with the current view of how the Grid and Distribution Codes (and G98 and G99) will be applied to installations where new PGMs are installed alongside existing pre-RfG equipment? (see page 11)	See our answer to Q5.
8	Do you agree on the introduction of a Preliminary Operation Notification relating to the Compliance process for Transmission connected Type B and Type C PGMs? (See <i>Workgroup discussions section</i>)	<p>Firstly, we do <u>not</u> agree with the introduction of a Preliminary Operation Notification relating to the Compliance process for Transmission connected Type B and Type C PGMs.</p> <p>Secondly, we believe that the proposed requirement to oblige Type B and Type C generators (i) not to submit a <i>power-generating module document</i> and (ii) to, instead, submit a <i>Preliminary Operation Notification</i> is illegal.</p> <p>Had the Member States and the Commission intended that Type B and Type C generators were to submit an 'ION' (which is effectively what the 'Preliminary Operation Notification' is, in all but name) they would simply have amended Article 33 accordingly.</p> <p>They did not do so – rather, they determined that a <i>power-generating module document</i> and <u>not</u> an 'ION' (or 'PON' as it has not to subtly been renamed!) was all that Type B and Type C generators need to submit.</p>
9	Do you agree with the retaining of the current GB arrangements for automatic connection and reconnection and the logic for it? If not, what alternative should be	It is not clear to us that the current GB arrangements for the automatic connection and reconnection after an incidental disconnection caused by a network disturbance are sufficient to discharge the RfG requirements in Articles 13(7)

	proposed? (see section 4.1.2.2)	and 14(4). Therefore we cannot agree to the retaining of those current arrangements un-amended.
10	Do you consider any parts of the proposed compliance, simulation or testing requirements for distribution-connected generators to be disproportionately onerous? (See section 5.2.5)	Yes, we do consider parts of the proposed compliance, simulation and testing requirements for distribution-connected generators to be more stringent than the requirements as defined in the RfG.
11	Do you agree it is appropriate to drop the designation Large and Small from the Distribution Code as proposed in section 3.3.1 of this consultation? Do you believe it is appropriate to drop the designation Large, Medium and Small from the Grid Code?	<p>We see no evidence, in 3.3 of the Workgroup consultation document, to dropping the designations in terms of Large / Medium / Small that this question states.</p> <p>Rather it's the complete opposite, with the reference to:</p> <p><i>"As these issues are outside the scope of the EU Connection Code implementation work it is proposed that the concepts of Large, Medium and Small Power Stations are retained..."</i> [3.3]</p> <p>Furthermore, we are concerned that the lack of a harmonised approach to the connection arrangements for new generators in GB would be detrimental. This is because the failure to provide a harmonised approach to the connection of generators in GB will not facilitate Union-wide trade in electricity, will not ensure system security, will not facilitate the integration of renewable electricity sources, will not increase competition and will not allow more efficient use of the network and resources and, therefore, the benefit of consumers will not be achieved.</p>
12	Do you have any comments on the draft requirements for fault recording equipment for distribution-connected Type C PGMs as drafted in Section 13.11 and Appendix C3 of G99?	<p>Notwithstanding the confusion about which version of the consultation we are replying to, the proposed requirements for fault recording are far too onerous and go well beyond the minimum requirements of RfG which simply specifies four values (voltage, active power, reactive power, frequency) to be recorded, with the criteria for triggering, sample rates and other 'settings' to be agreed with between the generator, system operator and TSO.</p> <p>There is absolutely no justification for the requirements as set out and these would impose significant cost burdens on to generators. For</p>

		<p>example: the requirement for time ‘tagging’ (implying sample rate?) of inputs to a 1µs (<i>microsecond!</i>) resolution is technically demanding due to its demands on data storage and the high cost of equipment capable of recording for long durations at this time resolution.</p> <p>Similarly it is left open for the DNO to specify if digital triggering is required but there are no limits on the amount of triggers a DNO could request and hence the impact on the cost of the recorder to accommodate all the triggers.</p> <p>Relatively low cost (< £10k) fault recorders are available which can record samples on a fault trigger at sufficiently high rates (e.g 1024 samples / cycle) for almost all fault investigation work but the requirement as currently proposed precludes the use of such devices despite these being in widespread use in the Republic of Ireland and the fault recorded data from them being accepted by Eirgrid despite it the system being approximately 10x smaller than that of GB.</p> <p>In writing this section, it would be far better if the TSO defined a minimum requirement <i>with an awareness of the cost to implementation</i> by advising in a schedule appended to G99 or the Grid Code, which ‘off the shelf’ fault recording products on the market are likely to be capable of meeting this standard .</p>
13	Do you agree that it is appropriate to include storage in G98 and G99, noting that as storage is explicitly excluded from the RfG, the technical requirements that arise solely from the RfG are not applied to storage in G09 and G99?	We have reservations that the proposed application of G98 and G99 to storage will, perhaps inadvertently, apply some RfG obligations on storage which, in our view would be inappropriate.
14	Do you agree that it is appropriate to include Type A PGMs <800W in capacity in G99, noting that those technical requirements that emanate from the RfG are not applied to PGMs <800W?	As with our answer to Q13, we have reservations that the proposed application of G98 and G99 to sub 800W generators will, perhaps inadvertently, apply some RfG obligations on sub 800W which, in our view would be inappropriate.
15	If you do not consider the proposed solution to sufficiently harmonise the connection requirements for new parties connecting to the	We do not consider the proposed solution set out in the GC0102 Original proposal to sufficiently harmonise the connection requirements for new parties connecting to the transmission and

	transmission and distribution networks, how would you propose this to be addressed? (See <i>Workgroup discussions section</i>)	<p>distribution networks.</p> <p>We propose that this be addressed, as a matter of the utmost urgency, by the Relevant TSO(s) and relevant System Operator(s) in accordance with their legal obligations under the RfG.</p>
16	G98 and G99 include specific requirements for power quality, harmonic compliance etc. Do you believe it should be possible to use other international standards or requirements to achieve these ends such that these specific requirements can be dropped from these documents? An explanation of your views would be useful.	<p>Where EU law permits international standards to be used then consideration should be given to this.</p> <p>However, we do not accept that this means that specific requirements can be dropped from the documents – rather, the documents should clearly (where applicable) refer to the exact specific requirement(s) and exactly where (within the detailed part of the international standard) this has been replaced by.</p> <p>European standard EN 50160 relates to Voltage characteristics of electricity supplied by public electricity networks. We would have expected that this is the only standard that would need to apply with respect to Power Quality.</p>
17	Do you agree that the explanation of type testing, both full and partial, and the inclusion of equipment certificates, is sufficiently clear and unambiguous in G99 drafting? Please make any suggestions that could add clarity.	<p>We note that the draft legal text for G99 has been amended compared to the draft legal text set out in (a) the 19th October version of the Workgroup consultation document; and (b) the 3rd November version of the Workgroup consultation document.</p> <p>Therefore we are unable to answer this question in detail.</p> <p>Nevertheless we would point out that the use of Equipment Certificates should be actively encouraged and supported by the Relevant TSO(s) and relevant System Operator(s). However, we are not certain that this is the case to date.</p>
18	The application of new technical requirements to non-type tested generation connecting to distribution networks will give rise to new processes etc. Please comment on how comprehensive the coverage of this is in the current drafting of G99 and please suggest any improvements	<p>We expect the use of Equipment Certificates will not give rise to new detailed processes etc., as the use of them will obviate the need for further compliance testing.</p>
19	Do you have any views on how the data and information required and articulated within G99 can or should	<p>We note that the data requirements are being addressed via GC0106, GLDPM and KORRR. These changes may, in turn, lead to the</p>

	relate to the Distribution Data Registration Code in the Distribution Code?	Distribution Data Registration Code in the Distribution Code needing to be changed accordingly.
20	Do you believe that this modification helps to promote transparency across the Industry and if not which areas should be improved? (see <i>Workgroup discussions section</i>)	<p>We do not believe that the GC0102 Original modification helps to promote transparency across the Industry.</p> <p>There is, for example, a total lack of visibility to stakeholders of the actual technical parameters that, as a newly connecting party, they have to meet.</p>

Legal drafting questions

Q	Question	Response
21	The Proposed draft Grid Code legal text contains a number of comments incorporating both internal and workgroup comments. Please feel free to provide further comment on the documents (Annex 1-5)	We will provide further comments on the Annex 1-5 documents at the forthcoming (16 th -17 th November) two day workshop.
22	Do you have any views on the structure of the Grid Code drafting for System Management and Compliance? (Annex 1-5)	We will provide further comments on the Annex 1-5 documents at the forthcoming (16 th -17 th November) two day workshop.
23	Are there are any areas in the Grid Code or Distribution Code drafting which you do not believe reflect the requirements of the RfG or HVDC Codes and, if so, why do you believe they are deficient? (Annex 1-9)	<p>We <u>do not</u> agree that the draft legal text contained in Annex 1-5 and 6-9 delivers the intent of the solution outlined in Sections 3-5.</p> <p>This is because the intent of the GC0102 solution is to ensure that all the requisite applicable articles of the EU Network Codes (RfG, DCC and HVDC) are implemented into the national network codes (namely the Grid Code and Distribution Code).</p> <p>However, there is <u>no evidence</u> provided that clearly maps over each of the EU Network Code obligations (that GC0102 is intended to implemented into the national network codes) to the draft legal text in Annex 1-5.</p> <p>It is clear from the draft legal text for GC0102 that multiple gaps and inconsistency existed between the draft legal text and the delivery of the intent of</p>

		<p>the solution outlined in Sections 3-5 of the Workgroup consultation.</p> <p>Absent a clear mapping of the EU Network Code articles to the draft legal text we cannot see how either (a) the Workgroup; or (b) stakeholders; or (c) the requisite Code Panel(s); or (d) Ofgem can say that the draft legal text in Annex 1-5 does deliver the solution outlined in Section 3-5.</p> <p>Notwithstanding the above, we also note that the draft legal text appears to be in direct contravention of the EU Network Codes.</p> <p>By way of example, the suggested use of the existing national definitions, amended in part by the EU Network Code requirements, has the unintended (or possibly intended?) consequence that it will not be clear to existing connected parties that, in fact, they are not actually bound by the EU Network Code amended definitions within the Grid Code (or Distribution Code) as this would be applying those EU Network Codes definitions (and associated obligations) to existing connected parties without either (1) a CBA being undertaken or (2) those parties having substantially modified their respective connection agreement(s) which would be in direct contravention of the RfG, DCC and HVDC Network Codes.</p>
24	Please make any other comments on the legal text drafting for the Distribution Code, G98 and G99 using the appropriate templates issued with this consultation.	We will provide further comments on the G98 and G99 documents at the forthcoming (23 rd - 24 th November) two day workshop.