

## GC0102: Code Admin Consultation Responses

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## Grid Code Administrator Consultation Response Proforma

### 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.

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<b>Respondent:</b>	<i>Andy Vaudin andrew.vaudin@edfenergy.com</i>
<b>Company Name:</b>	<i>EDF Energy</i>
	<p><i>For reference the applicable Grid Code objectives are:</i></p> <p><i>(i) to permit the development, maintenance and operation of an efficient, coordinated and economical system for the transmission of electricity;</i></p> <p><i>(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);</i></p> <p><i>(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;</i></p> <p><i>(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</i></p> <p><i>(v) To promote efficiency in the implementation and administration of the Grid Code arrangements.</i></p>

<b>1. Do you believe GC0102 or its alternative solution better facilitates the Applicable Grid Code Objectives? Please include your reasoning</b>	Yes. The original and the WACM modifications enable the Grid Code to be consistent with the applicable European Network Code requirements. The original is preferred as it enables a more efficient process.
<b>2. Do you support the proposed implementation approach? If not, please provide reasoning why.</b>	Yes.
<b>3. Do you have any other comments?</b>	None

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<b>Respondent:</b>	<i>Bernard Gospel (Technical Secretary)</i>
<b>Company Name:</b>	<p><i>The Association of Manufacturers of Power generating Systems (AMPS)</i></p> <p><i>The Association for Decentralised Energy (ADE)</i></p> <p><i>Joint Submission</i></p>
	<p><i>For reference the applicable Grid Code objectives are:</i></p> <p><i>(i) to permit the development, maintenance and operation of an efficient, coordinated and economical system for the transmission of electricity;</i></p> <p><i>(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);</i></p> <p><i>(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;</i></p> <p><i>(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</i></p>

	<p><i>Commission and/or the Agency; and</i></p> <p><i>(v) To promote efficiency in the implementation and administration of the Grid Code arrangements.</i></p>
<p><b>1. Do you believe GC0102 or its alternative solution better facilitates the Applicable Grid Code Objectives? Please include your reasoning</b></p>	<p>We believe the Original Proposal better facilitates the objectives as it does not cause problems with its application to off-shore installations.</p>
<p><b>2. Do you support the proposed implementation approach? If not, please provide reasoning why.</b></p>	<p>Yes</p>
<p><b>3. Do you have any other comments?</b></p>	<p>It is very unfortunate that the compliance process is not the one intended by the RfG. It is self-certification by manufacturers to Engineering Recommendation G99 and as such is GB specific and not at all harmonised across member states. The RfG clearly intends harmonisation using formal laboratory testing to a harmonised European Standard to facilitate cross border trade. This GB specific approach will do nothing to facilitate cross border trade and may well increase trade barriers.</p> <p>We should emphasise that this is in no way the fault of GB authorities who have done their utmost to resolve the problems caused by a fundamentally flawed piece of EU legislation that fails to specify the QA level required for Accredited Laboratories to issue Equipment Certificates. The failure to ensure an appropriate harmonised European standard is in place is the other obstacle to implementing the RfG as intended.</p> <p>While the proposed compliance system is a pragmatic solution to the problem for GB, it does raise fundamental concerns;</p> <ol style="list-style-type: none"> <li>1. The criteria for acceptance of a manufacturer's self-declaration of compliance with G99 is not clear and could lead to disputes between manufacturers, generators and DNOs.</li> <li>2. When a dispute does arise the only arbitrators are Ofgem and the courts.</li> <li>3. With no formal laboratory involvement and not even a British Standard never mind a European one it could be very hard to</li> </ol>

	<p>resolve disputes.</p> <p>It has been suggested that once a harmonised European standard does become available in one to two years time G99 should be reworked to reference it. Unfortunately, this will do nothing to resolve the lack of a QA level so Certified Laboratories will still not be able to issue Equipment Certificates. There is also doubt that there would be a good enough financial case to create the Notified Body that would probably be required for this process.</p> <p>Reworking G99 like this will add a significant additional burden to an industry still coming to terms with the changes caused by the RfG. It should be subject to full scrutiny by a cost-benefit analysis like any other code changes and only be carried out if financially justifiable.</p> <p>We are concerned that G99 is still unfinished and includes errors that are acknowledged by the authors. This inevitably means it will have to be completed after this last opportunity for scrutiny which is far from ideal.</p> <p>We have discovered what we believe is a serious defect in the drafting of ECC 6.3.7.1.2 and ECP A.5.8 as far as Type B PGMs is concerned. Type B is only required to have LFSM-O, but ECP only has a test regime that assumes FSM. Further, there is not clarity about what “as much as possible” means in practice in ECC 6.3.7.1.2(iii). We believe you understand the unmeetable challenge that this drafting makes for diesel/gas driven synchronous PGMs in the 1-5MW size range.</p> <p>We believe that more work is urgently needed to modify the legal text here (and the consequential requirements in G99).</p> <p>We would be happy to work with NG and the DNOs to achieve an rapid modification of this text as soon as possible given the necessary change processes.</p>
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<b>Respondent:</b>	<i>Greg Middleton MSc Principal Engineer</i> <a href="mailto:Greg.middleton@deepseapl.com">Greg.middleton@deepseapl.com</a> 01723 890099
<b>Company Name:</b>	<i>Deep Sea Electronics Plc</i>
	<p><i>For reference the applicable Grid Code objectives are:</i></p> <p><i>(i) to permit the development, maintenance and operation of an efficient, coordinated and economical system for the transmission of electricity;</i></p> <p><i>(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);</i></p> <p><i>(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;</i></p> <p><i>(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</i></p> <p><i>(v) To promote efficiency in the implementation and</i></p>

	<i>administration of the Grid Code arrangements.</i>
<b>1. Do you believe GC0102 or its alternative solution better facilitates the Applicable Grid Code Objectives? Please include your reasoning</b>	We believe the Original Proposal better facilitates the objectives as it does not cause problems with its application to off-shore installations.
<b>2. Do you support the proposed implementation approach? If not, please provide reasoning why.</b>	Yes
<b>3. Do you have any other comments?</b>	<p>It is very unfortunate that the compliance process is not the one intended by the RfG. It is self-certification by manufacturers to Engineering Recommendation G99 and as such is GB specific and not at all harmonised across member states. The RfG clearly intends harmonisation using formal laboratory testing to a harmonised European Standard to facilitate cross border trade. This GB specific approach will do nothing to facilitate cross border trade and may well increase trade barriers.</p> <p>We should emphasise that this is in no way the fault of GB authorities who have done their utmost to resolve the problems caused by a fundamentally flawed piece of EU legislation that fails to specify the QA level required for Accredited Laboratories to issue Equipment Certificates. The failure to ensure an appropriate harmonised European standard is in place is the other obstacle to implementing the RfG as intended.</p> <p>While the proposed compliance system is a pragmatic solution to the problem for GB, it does raise fundamental concerns;</p> <ol style="list-style-type: none"> <li>1. The criteria for acceptance of a manufacturer's self-declaration of compliance with G99 is not clear and could lead to disputes between manufacturers, generators and DNOs.</li> <li>2. When a dispute does arise the only arbitrators are Ofgem and the courts.</li> <li>3. With no formal laboratory involvement and not even a British Standard never mind a European one it could be very hard to resolve disputes.</li> </ol> <p>It has been suggested that once a harmonised European standard does become available in one</p>

to two years time G99 should be reworked to reference it. Unfortunately, this will do nothing to resolve the lack of a QA level so Certified Laboratories will still not be able to issue Equipment Certificates. There is also doubt that there would be a good enough financial case to create the Notified Body that would probably be required for this process.

Reworking G99 like this will add a significant additional burden to an industry still coming to terms with the changes caused by the RfG. It should be subject to full scrutiny by a cost-benefit analysis like any other code changes and only be carried out if financially justifiable.

We are concerned that G99 is still unfinished and includes errors that are acknowledged by the authors. This inevitably means it will have to be completed after this last opportunity for scrutiny which is far from ideal.

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<b>Respondent:</b>	<i>Steve Cox</i>
<b>Company Name:</b>	<a href="mailto:Steve.cox@enwl.co.uk">Steve.cox@enwl.co.uk</a>
	<p><i>For reference the applicable Grid Code objectives are:</i></p> <p><i>(i) to permit the development, maintenance and operation of an efficient, coordinated and economical system for the transmission of electricity;</i></p> <p><i>(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);</i></p> <p><i>(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;</i></p> <p><i>(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</i></p> <p><i>(v) To promote efficiency in the implementation and administration of the Grid Code arrangements.</i></p>

<b>1. Do you believe GC0102 or its alternative solution better facilitates the Applicable Grid Code Objectives? Please include your reasoning</b>	Yes
<b>2. Do you support the proposed implementation approach? If not, please provide reasoning why.</b>	Yes
<b>3. Do you have any other comments?</b>	None

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<b>Respondent:</b>	Alastair Frew
<b>Company Name:</b>	ScottishPower Generation
	<p><i>For reference the applicable Grid Code objectives are:</i></p> <p><i>(i) to permit the development, maintenance and operation of an efficient, coordinated and economical system for the transmission of electricity;</i></p> <p><i>(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);</i></p> <p><i>(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;</i></p> <p><i>(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</i></p> <p><i>(v) To promote efficiency in the implementation and administration of the Grid Code arrangements.</i></p>
<b>1. Do you believe GC0102 or its</b>	We believe the original is better.

<b>alternative solution better facilitates the Applicable Grid Code Objectives? Please include your reasoning</b>	
<b>2. Do you support the proposed implementation approach? If not, please provide reasoning why.</b>	Yes
<b>3. Do you have any other comments?</b>	No

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<b>Respondent:</b>	<i>Andrejs Svalovs</i> , <a href="mailto:andrejs_svalovs@ge.com">andrejs_svalovs@ge.com</a>
<b>Company Name:</b>	<i>GE Power</i>
	<p><i>For reference the applicable Grid Code objectives are:</i></p> <p><i>(i) to permit the development, maintenance and operation of an efficient, coordinated and economical system for the transmission of electricity;</i></p> <p><i>(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);</i></p> <p><i>(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;</i></p> <p><i>(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</i></p> <p><i>(v) To promote efficiency in the implementation and administration of the Grid Code arrangements.</i></p>
<b>1. Do you believe GC0102 or its</b>	Yes, for the national implementation of the

<p><b>alternative solution better facilitates the Applicable Grid Code Objectives? Please include your reasoning</b></p>	<p>Connection Codes</p>
<p><b>2. Do you support the proposed implementation approach? If not, please provide reasoning why.</b></p>	<p>Yes</p>
<p><b>3. Do you have any other comments?</b></p>	<p>FRT Studies as a part of ECC  Appendix 4, ECC.A.4A.2 refers to the importance of the network response that surround a power plant: <i>“The post fault voltage at a Grid Entry Point or User System Entry Point is largely influenced by the topology of the network rather than the behaviour of the Power Generating Module itself.”</i></p> <p>We support this understanding and importance of considering a surrounding network in more details. Please clarify if FRT studies based on a regional network is considered as an option.</p> <p>It is our understanding that the bold line in Figure ECC.6.3.15.4 shows the definite voltage profile at a Grid Entry Point for the time range 0-140ms; the profile after 140ms has a different meaning, namely a grid response to a fault which the plant should withstand. This is supported by Figure EA.4.2(a). Would it be more profitable to mark the definite voltage profile and the limiting grid response components in a different way for easier understanding.</p>

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<b>Respondent:</b>	<i>Dr. Isaac Gutierrez Senior Electrical Engineer Telephone number work: 01416143104 Mobile: 07761693652 Email: igutierrez2@scottishpower.com</i>
<b>Company Name:</b>	<i>Scottishpower Renewable ltd (UK)</i>
	<p><i>For reference the applicable Grid Code objectives are:</i></p> <p><i>(i) to permit the development, maintenance and operation of an efficient, coordinated and economical system for the transmission of electricity;</i></p> <p><i>(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);</i></p> <p><i>(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;</i></p> <p><i>(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</i></p>

	<i>(v) To promote efficiency in the implementation and administration of the Grid Code arrangements.</i>
<b>1. Do you believe GC0102 or its alternative solution better facilitates the Applicable Grid Code Objectives? Please include your reasoning</b>	Yes
<b>2. Do you support the proposed implementation approach? If not, please provide reasoning why.</b>	No, timescales for implementation of the modifications are being rushed and a grace period shall be implemented so developers that are in contract negotiations with manufacturer of generating equipment now are not penalised later with additional cost in order to meet the new Grid Code requirements
<b>3. Do you have any other comments?</b>	No

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<b>Respondent:</b>	<i>Dr. Tim Ellingham Connections Manager RWE Supply and Trading, RWE Generation Windmil Hill Swindon SN5 6PB</i>
<b>Company Name:</b>	<b>RWE Generation UK</b>
	<p><i>For reference the applicable Grid Code objectives are:</i></p> <p><i>(i) to permit the development, maintenance and operation of an efficient, coordinated and economical system for the transmission of electricity;</i></p> <p><i>(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);</i></p> <p><i>(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;</i></p> <p><i>(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</i></p>

	<p><i>and/or the Agency; and</i></p> <p><i>(v) To promote efficiency in the implementation and administration of the Grid Code arrangements.</i></p>
<p><b>1. Do you believe GC0102 or its alternative solution better facilitates the Applicable Grid Code Objectives? Please include your reasoning</b></p>	
<p>We believe that the proposed modification falls short, please see question 2.</p>	
<p><b>2. Do you support the proposed implementation approach? If not, please provide reasoning why.</b></p>	
<p><i>Context:</i>  <i>This modification (3/4) will set out within the Grid Code the following compliance obligations in the EU Connection Codes:</i></p> <ol style="list-style-type: none"> <li><i>1. Set the System Management parameters, as set out in RfG and HVDC</i></li> <li><i>2. Set the Compliance requirements, as set out in RfG, DCC and HVDC</i></li> </ol> <p>RWE believes that on the grounds of inconsistency, ambiguity and onerous requirements; this code cannot be fully appraised on implementation approach. Specifically, RWE believes that the following clauses require significant amendment prior to the code entering into UK legislation.</p>	
<p><b>1 Quick resynchronisation</b></p>	
<p>There is ambiguity in the translation of Regulation Article 15.5 c) into ECC. The transposed requirement (ECC.6.3.5.6) reads as a sub-requirement of an asset with a Black Start contract. Whereas, ECC.6.3.5.6 should be a self-standing requirement, irrespective of an assets Black Start capability.</p> <p>This ambiguity is a result of the section heading ECC.6.3.5 “Black Start” and subsequent sentence in ECC.6.3.5.1 “Black Start is not a mandatory requirement...” therefore arguably sections ECC.6.3.5.xx only apply to assets with agreed Black Start contracts.</p> <p>Simply retitling ECC.6.3.5 to System Restoration would assist in decoupling the subsections of ECC.6.3.5 with the definition of Black Start as a non-mandatory service/capability in ECC.6.3.5.1.</p> <p>Further, ECC.6.3.5.6 iii) requires NGET to specify the duration of houseload operation based on prime mover technology. These durations should be provided within this modification, and preferably within this clause. Alternatively, explicit reference to where these durations are detailed should be included.</p>	
<p><b>2 Additional code inconsistencies</b></p>	
<p>The following have also been found during review:</p> <ul style="list-style-type: none"> <li>• Incomplete contents page in “COMPLETE EUROPEAN CONNECTION</li> </ul>	

CONDITIONS LEGAL TEXT”

- ECC "Appendix E3" not listed in ECC contents
- Appendices listed in contents page without prefix "E"
- ECC.6.3.7.3.7 should reference Appendix “E3” not “A3”.
- ECC.6.3.12.1 should reference ECC.6.1.3, not ECC.6.1.2.
- “**HV performance chart**” continues to be referenced in ECC.6.3.2 (should be “**Power Generating Module Performance Chart**”)
- ECC.6.3.15.8 & ECC.6.3.15.10 both reference **Rated MWs** rather than **Maximum Capacity**

**3. Do you have any other comments?**

None.

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<b>Respondent:</b>	<i>Paul Youngman paul.youngman@Drax.com</i>
<b>Company Name:</b>	<i>Drax Power Limited</i>
	<p><i>For reference the applicable Grid Code objectives are:</i></p> <p><i>(i) to permit the development, maintenance and operation of an efficient, coordinated and economical system for the transmission of electricity;</i></p> <p><i>(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);</i></p> <p><i>(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;</i></p> <p><i>(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</i></p> <p><i>(v) To promote efficiency in the implementation and administration of the Grid Code arrangements.</i></p>

<b>1. Do you believe GC0102 or its alternative solution better facilitates the Applicable Grid Code Objectives? Please include your reasoning</b>	The original GC0102 better satisfies the applicable grid code objectives. It satisfies objective (iv) to the extent that it introduces the provisions of the EU connection codes. The modification can also be seen as enabling aspects of Objective (i) and (iii) relating to the efficient maintenance and operation of the system and enhancing aspects of security of supply.
<b>2. Do you support the proposed implementation approach? If not, please provide reasoning why.</b>	Yes
<b>3. Do you have any other comments?</b>	No comments

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<b>Respondent:</b>	<i>Alan Creighton</i>
<b>Company Name:</b>	<i>Northern Powergrid</i>
	<p><i>For reference the applicable Grid Code objectives are:</i></p> <p><i>(i) to permit the development, maintenance and operation of an efficient, coordinated and economical system for the transmission of electricity;</i></p> <p><i>(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);</i></p> <p><i>(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;</i></p> <p><i>(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</i></p> <p><i>(v) To promote efficiency in the implementation and administration of the Grid Code arrangements.</i></p>
<b>1. Do you believe GC0102 or its</b>	Our comments relate generally to GC0100,

<p><b>alternative solution better facilitates the Applicable Grid Code Objectives? Please include your reasoning</b></p>	<p>GC0101 and GC0102. We believe that the Original proposals better facilitate the GCode objectives (i), (ii) and (iii) as they facilitate the implementation of the EU RfG network code in an open and transparent manner.</p>
<p><b>2. Do you support the proposed implementation approach? If not, please provide reasoning why.</b></p>	<p>Yes</p>
<p><b>3. Do you have any other comments?</b></p>	<p>We have two observations related to the draft code changes:</p> <p><b>Glossary and Definitions</b> included as GC0100. There are some changes which are DCC related rather than RfG related; it is inappropriate to include these in a RfG focussed change. Of particular concern is the definition of a GB Code User.</p> <p>The proposed definition of a GB Code User  c) A <b>Network Operator</b> or <b>Non Embedded Customer</b> whose <b>Main Plant and Apparatus</b> was connected to the <b>System</b> before 7 September 2018 or who had placed <b>Purchase Contracts</b> for its <b>Main Plant and Apparatus</b> before 7 September 2018 or has not <b>Substantially Modified</b> their <b>Plant and Apparatus</b> after 7 September 2018.</p> <p>Should be changed to:</p> <p>c) A <b>Network Operator</b> or <b>Non Embedded Customer</b>.</p> <p><b>DRC.</b> Schedule 11 page 68 is unclear whether DNOs are required to report the number of Generation Units or PGMs installed at a Power Station.</p>

## Grid Code Administrator Consultation Response Proforma

### 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 2 February 2018** to [Grid.Code@nationalgrid.com](mailto: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.

These responses will be included in the Report to the Authority which is drafted by National Grid and submitted to the Authority for a decision.

<b>Respondent:</b>	<i>Rob Wilson</i> <a href="mailto:Robert.wilson2@nationalgrid.com">Robert.wilson2@nationalgrid.com</a> 07799 656402
<b>Company Name:</b>	<i>National Grid</i>
	<p><i>For reference the applicable Grid Code objectives are:</i></p> <p><i>(i) to permit the development, maintenance and operation of an efficient, coordinated and economical system for the transmission of electricity;</i></p> <p><i>(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);</i></p> <p><i>(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;</i></p> <p><i>(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</i></p> <p><i>(v) To promote efficiency in the implementation and</i></p>

	<i>administration of the Grid Code arrangements.</i>
<p><b>1. Do you believe GC0102 or its alternative solution better facilitates the Applicable Grid Code Objectives? Please include your reasoning</b></p>	<p>National Grid as the GB SO supports the original proposal rather than the alternative which removes the option of a type B/C generator connecting through an interim operational notification (ION).</p> <p>The original proposal was developed by the workgroup to be a practical solution to the current unavailability of power generating module documents (PGMDs). The alternative, by removing the ION option for B/C generators, leaves these with a far less clear route to achieving a final operational notification and hence connection. It will cause further difficulties in establishing offshore connections and hence in the process of setting up and transferring assets to an OFTO.</p> <p>In effect this is a barrier to entry and to cross-border trade which is contrary to the intent of the European Codes and to the requirements of the 3<sup>rd</sup> package legislation. This states that more detailed or stringent requirements can be maintained or introduced in national frameworks as long as these do not negatively impact cross-border trade.</p> <p>An assessment of the original proposal against the Grid Code objectives is as follows:</p> <p><i>i. To permit the development, maintenance and operation of an efficient, coordinated and economical system for the transmission of electricity</i></p> <p>Positive. In developing this code modification the task of the workgroup has been to find a balance between the costs that will be incurred by owners of equipment in complying with a more onerous specification and the benefit to the system in avoiding operational costs that would otherwise be incurred in providing support due to the connection of less capable equipment. This is also the aim of the European Network Codes as stated by ENTSO-E and is particularly important given the development of the system and the shift in the generation portfolio from larger, centrally despatched units to smaller and embedded renewable generation.</p> <p><i>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</i></p>

	<p><i>persons authorised to supply or generate electricity on terms which neither prevent nor restrict competition in the supply or generation of electricity)</i></p> <p>Positive. Ofgem have made clear during the workgroup proceedings that their decisions will be based on evidence in both directions – ie that where choices are made these are based on a tipping point being reached where the costs of choosing more onerous settings is evidenced to outweigh the operational benefit. Evidence supporting the National Grid proposal is provided in the report.</p> <p><i>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</i></p> <p>Positive, as stated above, in making balanced choices for the overall benefit of the end consumer.</p> <p><i>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</i></p> <p>Positive. This modification is required to implement elements of the 3 European Connection Codes forming part of the suite of European Network Codes resulting from the EU 3rd Package legislation (EC 714/2009).</p> <p><i>v. To promote efficiency in the implementation and administration of the Grid Code arrangements</i></p> <p>Neutral.</p> <p>So as noted above, the GC0102 original proposal better facilitates objectives (i)-(iv) and is neutral against objective (v).</p> <p>The alternative proposal, in promoting a barrier to entry, is inefficient and does not facilitate competition. It therefore does not, in our view, better facilitate any of objectives (i)-(iv) and is neutral against objective (v).</p>
<p><b>2. Do you support the proposed implementation approach? If not, please provide reasoning why.</b></p>	<p>Yes.</p>
<p><b>3. Do you have any other</b></p>	<p>No.</p>

<b>comments?</b>	
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