








Stage 2: Workgroup Consultation	At what stage is this document in the process?
<h1 data-bbox="124 338 724 432">GC0107/113</h1> <p data-bbox="124 472 1126 748"><b>Mod Title:</b> The open, transparent, non-discriminatory and timely publication of the generic and/or Power Generating Module specific values required to be specified by the relevant TSO(s) and / or relevant system operator et al., in accordance with the Requirements for Generators (GC107) and Demand Connection Conditions (GC113)</p>	<div data-bbox="1177 338 1481 869"> <div>01 Proposal form</div> <div>02 Workgroup Consultation</div> <div>03 Workgroup Report</div> <div>04 Code Administrator Consultation</div> <div>05 Draft Grid Code Modification Report</div> <div>06 Final Grid Code Modification Report</div> </div>
<p data-bbox="124 1019 1541 1149"><b>Purpose of Modification:</b> These modifications will set out within the Grid Code the obligations in the EU Connection Codes as they relate to the specification of certain items by certain obligated party or parties.</p>	
	<p data-bbox="236 1189 1541 1256">This document contains the discussion of the Workgroup which formed in 18 November 2017 to develop and assess the proposal.</p> <p data-bbox="236 1279 1541 1386">A Workgroup Consultation has already been run for GC0107, which closed on 6 September 2019. Responses to this consultation are available by accessing the file “GC107/113 9 October Workgroup Papers” which is located under the “Workgroup tab” at:</p> <p data-bbox="236 1408 1541 1476"><a href="https://www.nationalgrideso.com/codes/grid-code/modifications/gc0107-open-transparent-non-discriminatory-and-timely-publication">https://www.nationalgrideso.com/codes/grid-code/modifications/gc0107-open-transparent-non-discriminatory-and-timely-publication</a></p> <p data-bbox="236 1498 1541 1568">On the basis that GC0113 could impact different stakeholder groups, the Workgroup on 9 October 2019 agreed to run a separate Workgroup Consultation for GC0113.</p> <p data-bbox="236 1590 1541 1657">Any interested party is able to make a response in line with the guidance set out in the Governance Rules of the Grid Code.</p> <p data-bbox="236 1680 719 1713"><b>Published on: 1 November 2019</b></p> <p data-bbox="236 1736 860 1769"><b>Length of Consultation: 15 Working days</b></p> <p data-bbox="236 1792 879 1825"><b>Responses by: 5pm on 22 November 2019</b></p>
	<p data-bbox="252 1856 1541 1964"><b>Medium Impact:</b> Transmission Owners (including OFTOs), Interconnectors, Electricity System Operator (ESO), external Transmission System Operators (TSOs), Distribution Network Operators (DNOs), Generators</p>

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Timetable		 07794537028
Workgroup Report presented to Panel	November 2017	 Proposer: Garth Graham SSE Generation   garth.graham@sse.com   07736881818
Initial consideration by Workgroup	18 November 2017	
GC0107 Workgroup Consultation issued to the Industry	31 July 2019	
GC0113 Workgroup Consultation issued to the Industry	1 November 2019	
Workgroup Report presented to Panel	19 December 2019	
Code Administration Consultation issued to the Industry	January 2020	
Draft Final Modification Report presented to Panel	February 2020 Papers Day	
Modification Panel decision	February 2020 Panel	
Final Modification Report issued to the Authority	March 2020	
Decision from Authority	April 2020	
Decision implemented in Grid Code	10 working days after approval by the Authority)	

## 1 About this document

This report contains the discussion of the Workgroup which formed to develop and assess the two proposals. In April 2018, the Grid Code Review Panel decided to amalgamate GC0107 and GC0113 so that these modifications would be considered by a single Workgroup together.

Modification Numbers GC0107 and GC0113 were proposed by SSE Generation Limited in November 2017 and April 2018 respectively. GC0107 and GC0113 seek to oblige Network Operators to publish the technical requirements of general application or the technical requirements of specific application that arise from the application of the Requirements for Generators (GC0107) or the Demand Connection Conditions (GC0113) in GB.

In April 2018, the Grid Code Review Panel decided to amalgamate GC0107 and GC0113 so that these modifications would be considered by a single Workgroup together. A Workgroup Consultation has already been run for GC0107, which closed on 6 September 2019. Responses to this consultation are available by accessing the file “GC107/113 9 October Workgroup Papers” which is located under the “Workgroup tab” at:

<https://www.nationalgrideso.com/codes/grid-code/modifications/gc0107-open-transparent-non-discriminatory-and-timely-publication>

On the basis that GC0113 could impact different stakeholder groups, on 9 October 2019 the Workgroup agreed to run a separate Workgroup Consultation for GC0113.

Section 2 (Original Proposal) and Section 3 (Proposer’s solution) are sourced directly from the Proposer and any statements or assertions have not been altered or substantiated/supported or refuted by the Workgroup.

Section 4 of this document contains the discussion by the Workgroup on the Proposal and the potential solution.

The Grid Code Review Panel detailed in the Terms of Reference the scope of work for the GC0107/113 Workgroup and the specific areas that the Workgroup should consider.

The table below details these specific areas and where the Workgroup have covered them or will cover post the Workgroup Consultation.

The full Terms of Reference can be found in Annex 4.

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**Table 1: GC0107/113 Terms of Reference**

Specific Area	Location in the report
a) Implementation	Section 7
b) Review draft legal text should it have been provided. If legal text is not submitted within the Grid Code Modification Proposal the Workgroup should be instructed to assist in the developing of the legal text;	Section 8
c) Consider whether any further Industry experts or stakeholders should be invited to participate within the Workgroup to ensure that all potentially affected stakeholders have the opportunity to be represented in the Workgroup.	N/A – Manufacturers approached by workgroup but no interest shown in participating in workgroup
d) Whether the modification is required for compliance to EU Codes, this must be reported back after the initial meeting including a proposed timetable	N/A - Modification is not required for compliance to EU Codes
e) Whether parties can be obligated to populate the proposed spreadsheet	Section 4 and 5
f) Estimation of the costs and benefits of populating and maintaining the proposed spreadsheet	Section 4 and 5
g) Agree the process for the options for publication of the proposed spreadsheet	Section 4 and 5

**Table of Acronyms**

Acronym	Meaning
BEIS	Business, Energy & Industrial Strategy
CATO	Competitively Appointed Transmission Owners

CUSC	Connection and Use of System Code
DCC	Demand Connection Code
DNO	Distribution Network Operator
ESO	National Grid Electricity System Operator
IDNO	Independent Distribution Network Operator
HVDC	High Voltage Direct Current
NRA	National Regulatory Authorities
PGM	Power Generating Module
RfG	Requirements for Generators
OFTO	Offshore Transmission Owner
TO	Transmission Owner
TSO	Transmission System Operator

## 2 Original Proposal

**Section 2 (Original Proposal) and Section 3 (Proposer's Solution) are sourced directly from the Proposer's original proposal and any statements or assertions have not been altered or substantiated/supported or refuted by the Workgroup. Section 4 of this document contains the discussion by the Workgroup on the Proposal and the potential solution.**

### Defect

The Grid Code does not currently provide transparency for GB stakeholders of the technical requirements of general application or the technical requirements of specific application that arise from the application of the RfG<sup>1</sup>/DCC<sup>2</sup> in GB.

### What

The Grid Code will need to be amended to set out the procedure for the publication of those values, as set out in the RfG & DCC:

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<sup>1</sup> 'Requirement for Generator' Network Code – Regulation 2016/631

<http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32016R0631&from=EN>

<sup>2</sup> For the purposes of this Modification where we refer to 'new Demand' or 'new Demand parties' we mean all those listed in Article 3(1) (a)-(d) of the DCC.

- i. to be specified by the relevant TSO and / or the relevant system operator; and
- ii. to be coordinated and / or agreed between the relevant TSO and / or the relevant system operator and the power-generating facility owner and the new Demand parties.

## Why

### GC0107

Guidance from BEIS and Ofgem was to apply the new EU requirements within the existing GB regulatory frameworks. This would provide accessibility and familiarity to GB parties, as well as putting in place a robust governance route to apply the new requirements in a transparent and proportionate way.

Recital (15) of the RfG also sets out that:

“The requirements [of the RfG] should be based on the principles of non-discrimination and transparency...”.

This modification needs to be undertaken in timely manner to ensure impacted Users are aware of their compliance obligations - particularly in relation to procurement of equipment, testing and operational requirements. This modification is also therefore, critical to facilitate/demonstrate Member State compliance to the RfG (EU) Connection Network Code.

The production of (and ongoing maintenance of) a transparent reporting template, that would arise with this modification, will allow new generators seeking to connect in GB and manufacturers of generation plant and apparatus seeking to sell their equipment in GB to clearly see and understand what the RfG technical requirements are in GB. Thus, for example, if a generator (or manufacturer seeking to sell its equipment in GB) wished to connect and the said equipment fell outside the published applicable RfG value(s) for GB then they would know that a derogation would need to be applied for (if they wished to proceed further with their connection or sale(s)).

### GC0113

Guidance from BEIS and Ofgem was to apply the new EU requirements within the existing GB regulatory frameworks. This would provide accessibility and familiarity to GB parties, as well as putting in place a robust governance route to apply the new requirements in a transparent and proportionate way.

Recital (9) of the DCC also sets out that:

“The requirements [of the DCC] should be based on the principles of nondiscrimination and transparency...”.

This modification needs to be undertaken in timely manner to ensure impacted Users are aware of their compliance obligations - particularly in relation to procurement of equipment, testing and operational requirements. This modification is also therefore, critical to facilitate/demonstrate Member State compliance to the DCC (EU) Connection Network Code.

The production of (and ongoing maintenance of) a transparent reporting template, that would arise with this modification, will allow Users that are within the scope of DCC (and parties seeking to manufacture associated equipment) to clearly see and understand what the DCC technical

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requirements are in GB as well as know that a derogation would need to be applied for (if they wished to proceed further with their connection or sale(s) etc.,)

## How

With the support of the industry, we will use these modifications to finalise the solution to apply the EU Connection Codes requirements, before consulting with the wider industry and submitting to Ofgem for a decision.

## 3 Proposer's Solution

**Section 3 (Proposer's Solution) are sourced directly from the Proposer and any statements or assertions have not been altered or substantiated/supported or refuted by the Workgroup. Section 4 of the Workgroup Report contains the discussion by the Workgroup on the Proposal and the potential solution.**

### GC0107

The initial thinking is that the Ofgem Multiple TSO Allocation spreadsheet<sup>3</sup> will be amended, by the addition of columns to the right (of those already shown) to act as a transparent reporting template.

The Grid Code will require the parties concerned to populate the template, as appropriate.

The transparent reporting template will show (1) the party or parties who are responsible for the specification of the value or, if appropriate, value range; and (2) the actual applicable value<sup>4</sup> itself for that organisation (or, if appropriate, organisations). In respect of (1) it is currently understood that there are four 'groupings' that are responsible, namely:

- (i) the relevant TSO; or
- (ii) the relevant TSO and the relevant system operator; or
- (iii) the relevant system operator; or
- (iv) the relevant TSO and / or the relevant system operator and the power-generating facility owner.

In respect of (2) it is currently understood that there are a number of possible organisations that are relevant, including: National Grid (as SO), National Grid (as E&W TO), the two Scottish TOs, OFTOs (plus, in the future, potentially CATOs) and the 14 licensed DNOs<sup>5</sup>.

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<sup>3</sup> This can be found on the Ofgem website: <https://www.ofgem.gov.uk/publications-and-updates/decision-our-consultation-assignment-transmission-system-operator-obligations-under-requirements-generators-demand-connection-high-voltage-direct-current-and-forward-capacity-allocation-regulations-within-gb>

<sup>4</sup> Or, where applicable, value range.

<sup>5</sup> Eastern Power Networks Plc; Electricity North West Limited; London Power Networks Plc; Northern Powergrid (Northeast) Limited; Northern Powergrid (Yorkshire) Plc; Scottish Hydro Electric Power Distribution Plc; South Eastern Power Networks Plc; Southern Electric Power Distribution Plc; SP Distribution Plc; SP Manweb Plc; Western Power Distribution (East Midlands) Plc; Western Power Distribution (South Wales) Plc; Western Power Distribution (South West) Plc; and, Western Power Distribution (West Midlands) Plc.

We have prepared an illustrative representation of what the transparent reporting template might look like with item (1) shown in columns H-K (in yellow) and item (2) shown in columns L-AE (in light green).

We would suggest that the Workgroup review all the RfG obligations, in respect of the specification of certain values by the party or parties concerned (as per (1) above) and identify if these are either:

- a. a generic value – that is they are to be applied by the party or parties concerned in a harmonised way to all newly connecting generators of that Type (A-D) – such as Articles 13 (1) (b)<sup>6</sup> or 14 (5) (d) (ii)<sup>7</sup> ; or
- b. (only where permitted by the RfG) a power-generating facility specific value – that is to be applied by the party or parties concerned to a specific facility only – such as Articles 13 (1) (a) (ii)<sup>8</sup> or 16 (2)(b)<sup>9</sup>.

In respect of the generic value, as set out in the RfG, for example, at recital (3)<sup>10</sup>, the value should be harmonised by the party or parties concerned.

This is because the failure to provide a harmonised generic value 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.

In a limited number of cases the RfG (EU) Connection Network Code does permit non-harmonised values to be applied<sup>11</sup>, in coordination with and with the agreement of, the power-generating facility owner – which we refer to as ‘power-generating facility specific value’.

For illustrative purposes, we refer to the generic value to be applied as ‘X’ (or, where the RfG permits this value to be a range ‘X1-X2’) when the Workgroup reviews the RfG specification obligations.

For illustrative purposes, we refer to the power-generating facility specific value to be applied as ‘Y’ (or, where the RfG permits this value to be a range ‘Y1-Y2’) when the Workgroup reviews the RfG specification obligations.

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<sup>6</sup> With regard to the rate of change of frequency withstand capability, a power-generating module shall be capable of staying connected to the network and operate at rates of change of frequency up to a value specified by the relevant TSO, unless disconnection was triggered by rate-of-change-of-frequency-type loss of mains protection. The relevant system operator, in coordination with the relevant TSO, shall specify this rate-of-change-of-frequency-type loss of mains protection.”

<sup>7</sup> power-generating facilities shall be capable of exchanging information with the relevant system operator or the relevant TSO in real time or periodically with time stamping, as specified by the relevant system operator or the relevant TSO;”

<sup>8</sup> the relevant system operator, in coordination with the relevant TSO, and the power-generating facility owner may agree on wider frequency ranges, longer minimum times for operation or specific requirements for combined frequency and voltage deviations”

<sup>9</sup> wider voltage ranges or longer minimum time periods for operation may be agreed between the relevant system operator and the power-generating facility owner in coordination with the relevant TSO.”

<sup>10</sup> Harmonised rules for grid connection for power-generating modules should be set out in order to provide a clear legal framework for grid connections, facilitate Union-wide trade in electricity, ensure system security, facilitate the integration of renewable electricity sources, increase competition and allow more efficient use of the network and resources, for the benefit of consumers.”

<sup>11</sup> Or where a derogation has been applied for and been granted by the NRA.



It is proposed that, if approved, the party or parties who are responsible for the specification of the value(s)<sup>12</sup> would be required to populate the transparent reporting template; i.e. replace the 'X' (or 'X1-X2') or 'Y' (or 'Y1-Y2'); with their respective value<sup>13</sup> by Tuesday 1<sup>st</sup> May 2018 at the latest, although they would be free to do so prior to this date if they wished<sup>14</sup>.

Where, going forward beyond 1st May 2018, the party or parties who are responsible for the specification of the value(s) etc., wished to change the said value<sup>15</sup> they would provide to National Grid SO<sup>16</sup> their updated value<sup>17</sup> within one Business Day of the party or parties specifying the new said value<sup>18</sup> and National Grid SO would, within one Business Day amend, update and (re)publish the transparent reporting template. The change in the said value<sup>19</sup> would take effect from 00:01 on the next Business Day after the Business Day<sup>20</sup> that the amended and updated transparent reporting template was (re)published by National Grid SO.

We recognise that in respect of a power-generating facility specific value that there may be reservations around the confidentiality of the value(s) concerned. We note however, that such reservations would not be relevant where a derogation has been granted, from the RfG value(s), as the applicable value(s) in that case would be published, as part of the derogation notice, by the NRA.

Nevertheless, in recognition of the reservations around the confidentiality of the value(s) we would propose the following approach. Where an organisation concerned with specifying the value(s) has agreed the power-generating facility specific value(s) for less than four sites then those values would only be notified to Ofgem.

However, where four or more such sites had the power-generating facility specific value(s) (organisation concerned) via the transparent reporting template, rather than to Ofgem only.

We have shown this in columns AF-AY (in light blue) in the illustrative representation of the transparent reporting template. We also recognise that the Workgroup might wish to consider if these power-generating facility specific value(s) should be published by generator technology type (if appropriate).

Finally, for completeness, we would propose that where a derogation has been granted by Ofgem that the value<sup>21</sup> concerned would also be placed on the transparent reporting template<sup>22</sup> by the relevant organisation<sup>23</sup> (or, if appropriate, organisations). We have shown this in columns AZ-BS (in orange) in the illustrative representation of the transparent reporting template.

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<sup>12</sup> Or, if appropriate, range of values.

<sup>13</sup> Or, if appropriate, range of values.

<sup>14</sup> We would suggest that the implementation date for this proposal be set five Business Days after an Authority decision – thus parties could populate the template from that date onwards.

<sup>15</sup> Or, if appropriate, range of values.

<sup>16</sup> As the Grid Code (Code) Administrator.

<sup>17</sup> Or, if appropriate, range of values.

<sup>18</sup> Or, if appropriate, range of values.

<sup>19</sup> Or, if appropriate, range of values.

<sup>20</sup> Thus, a change published by ESO during Wednesday would take effect from 00:01 on Thursday.

<sup>21</sup> Or, if appropriate, range of values.

<sup>22</sup> We would suggest this be done within two Business Days of the publication of the

<sup>23</sup> Such as the Relevant ISO or Relevant System Operator.

## GC0113

The initial thinking is that the approach set out in GC0107 (which deals with the equivalent publication of items related to the RfG<sup>24</sup>) should be applied with respect to the Demand Connection Network Code.

Therefore, as with GC0107, the Ofgem Multiple TSO Allocation spreadsheet<sup>25</sup> will be amended, by the addition of columns to the right (of those already shown) to act as a transparent reporting template.

The Grid Code will require the parties concerned to populate the template, as appropriate.

The transparent reporting template will show (1) the party or parties who are responsible for the specification of the value or, if appropriate, value range; and (2) the actual applicable value<sup>26</sup> itself for that organisation (or, if appropriate, organisations).

In respect of (1) it is currently understood that there are four ‘groupings’ that are responsible, namely:

- (i) the relevant TSO; or
- (ii) the relevant TSO and the relevant system operator; or
- (iii) the relevant system operator; or
- (iv) the relevant TSO and / or the relevant system operator and the relevant party (as per Article 3(1) (a)-(d)<sup>27</sup>).

In respect of (2) it is currently understood that there are a number of possible organisations that are relevant, including: National Grid (as SO), National Grid (as E&W TO), the two Scottish TOs, OFTOs (plus, in the future, potentially CATOs?) and the 14 licensed DNOs<sup>28</sup>.

We have prepared, for GC0107, an illustrative representation of what the transparent reporting template (which could also be applied for this Modification) might look like with item (1) shown in columns H-K (in yellow) and item (2) shown in columns L-AE (in light green).

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<sup>24</sup> Regulation 2016/631

<sup>25</sup> This can be found on the Ofgem website.

<https://www.ofgem.gov.uk/publications-and-updates/decision-our-consultation-assignment-transmission-system-operator-obligations-under-requirements-generators-demand-connection-high-voltage-direct-current-and-forward-capacity-allocation-regulations-within-qb>

<sup>26</sup> Or, where applicable, value range.

<sup>27</sup> (a) new transmission-connected demand facilities; (b) new transmission-connected distribution facilities; (c) new distribution systems, including new closed distribution systems; (d) new demand units used by a demand facility or a closed distribution system to provide demand

<sup>28</sup> Eastern Power Networks Plc; Electricity North West Limited; London Power Networks Plc; Northern Powergrid (Northeast) Limited; Northern Powergrid (Yorkshire) Plc; Scottish Hydro Electric Power Distribution Plc; South Eastern Power Networks Plc; Southern Electric Power Distribution Plc; SP Distribution Plc; SP Manweb Plc; Western Power Distribution (East Midlands) Plc; Western Power Distribution (South Wales) Plc; Western Power Distribution (South West) Plc; and, Western Power Distribution (West Midlands) Plc.

We would suggest that the Workgroup review all the DCC obligations, in respect of the specification of certain values by the party or parties concerned (as per (1) above) and identify if these are either:

- a. a generic value – that is they are to be applied by the party or parties concerned in a harmonised way to all new Demand parties; or
- b. (only where permitted by the DCC) a DCC specific value – that is to be applied by the party or parties concerned to a specific connection / facility only –.

In respect of the generic value, as set out in the DCC, the value should be harmonised by the party or parties concerned.

This is because the failure to provide a harmonised generic value 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.

In a limited number of cases the DCC (EU) Connection Network Code does permit non harmonised values to be applied<sup>29</sup>, in coordination with and with the agreement of the new Demand party/parties – which we refer to as DCC specific value.

For illustrative purposes we refer to the generic value to be applied as 'X' (or, where the DCC permits this value to be a range 'X1-X2') when the Workgroup reviews the DCC specification obligations.

For illustrative purposes we refer to the DCC specific value to be applied as 'Y' (or, where the DCC permits this value to be a range 'Y1-Y2') when the Workgroup reviews the DCC specification obligations.

It is proposed that, if approved, the party or parties who are responsible for the specification of the value(s)<sup>30</sup> would be required to populate the transparent reporting template; i.e. replace the 'X' (or 'X1-X2') or 'Y' (or 'Y1-Y2'); with their respective value<sup>31</sup> by Friday 7<sup>th</sup> December 2018 at the latest, although they would be free to do so prior to this date if they wished<sup>32</sup>.

Where, going forward beyond Friday 7<sup>th</sup> December 2018, the party or parties who are responsible for the specification of the value(s) etc., wished to change the said value<sup>33</sup> they would provide to National Grid SO<sup>34</sup> their updated value<sup>35</sup> within one Business Day of the party or parties specifying the new said value<sup>15</sup> and National Grid SO would, within one Business Day amend, update and (re)publish the transparent reporting template.

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<sup>29</sup> Or where a derogation has been applied for and been granted by the NRA.

<sup>30</sup> Or, if appropriate, range of values.

<sup>31</sup> Or, if appropriate, range of values.

<sup>32</sup> We would suggest that the implementation date for this proposal be set five Business Days after an Authority decision – thus parties could populate the template from that date onwards.

<sup>33</sup> Or, if appropriate, range of values.

<sup>34</sup> As the Grid Code (Code) Administrator.

<sup>35</sup> Or, if appropriate, range of values

The change in the said value<sup>36</sup> would take effect from 00:01 on the next Business Day after the Business Day<sup>37</sup> that the amended and updated transparent reporting template was (re)published by National Grid SO.

We recognise that in respect of a DCC specific value that there may be reservations around the confidentiality of the value(s) concerned. We note however, that such reservations would not be relevant where a derogation has been granted, from the DCC value(s), as the applicable value(s) in that case would be published, as part of the derogation notice, by the NRA.

Nevertheless, in recognition of the reservations around the confidentiality of the value(s) we would propose the following approach. Where an organisation concerned with specifying the value(s) has agreed the DCC specific value (s) for less than four sites then those values would only be notified to Ofgem.

However, where four or more such sites had the DCC specific value(s) then all these values (or more likely the range of the said values) would be notified (by the organisation concerned) via the transparent reporting template, rather than to Ofgem only. We have shown this in columns AF-AY (in light blue) in the illustrative representation of the transparent reporting template. We also recognise that the Workgroup might wish to consider if these DCC specific value(s) should be published by party type (if appropriate) as per Article 3(1) (a)-(d)<sup>38</sup>

Finally, for completeness, we would propose that where a derogation has been granted by Ofgem that the value<sup>39</sup> concerned would also be placed on the transparent reporting template<sup>40</sup> by the relevant organisation<sup>41</sup> (or, if appropriate, organisations). We have shown this in columns AZ-BS (in orange) in the illustrative representation of the transparent reporting template.

## 4 Workgroup Discussions

The Workgroup first convened in December 2018 to discuss the perceived issue, detail the scope of the proposed defect, devise potential solutions, assess the proposal in terms of the Applicable Grid Code Objectives and review the responses to the Workgroup Consultation for GC0107.

10 Workgroup meetings were held.

### Summary of Proposer's original solution

The Proposer's original solution was:

<sup>36</sup> Or, if appropriate, range of values.

<sup>37</sup> Thus a change published by NG SO during Wednesday would take effect from 00:01 on Thursday.

<sup>38</sup> 18 (a) new transmission-connected demand facilities; (b) new transmission-connected distribution facilities; (c) new distribution systems, including new closed distribution systems; (d) new demand units used by a demand facility or a closed distribution system to provide demand response services to relevant system operators and relevant TSOs.

<sup>39</sup> .Or, if appropriate, range of values

<sup>40</sup> We would suggest this be done within two Business Days of the publication of the Ofgem derogation notification.

<sup>41</sup> Such as the Relevant TSO or Relevant System Operator

- Creation of a spreadsheet<sup>42</sup> that relevant network operators such as Transmission System Operators (TSOs) and Distribution Network Operators (DNOs) will be required to complete and for it to be published by the ESO; and
- Development of new legal text for the Grid Code to oblige the relevant parties to complete the spreadsheet.

The benefits of the proposed original solution from Proposer's perspective is to:

- Provide transparency for industry allowing manufacturers and generators or demand customers to see all the GB parameters required for the RfG / DCC when they are seeking to connect to the transmission or distribution network;
- Enable all stakeholders to have visibility of all the bilaterally agreed generation and demand values that deviate from the standard values; and
- Prevent the template from being withdrawn without a Grid Code change in the future whilst ensuring the harmonisation benefits identified in the Ofgem decision letters for GC0100, GC0101, GC0102 and GC0104 are achieved. Furthermore, by being codified it avoids a similar situation arising as happened with the Grid Code System Incident reporting (which necessitated GC0105 being raised to codify the publication of the report after its publication was ceased).

#### Creation of the template

The workgroup agreed that the template will need to show both the list of requirements that were of general application and those that have been agreed bilaterally.

Discussions have centred on clarifying the scope of what actual requirements for connecting parties from an RfG perspective could reasonably be agreed on a site specific (rather than being a requirement of general application<sup>43</sup>, which cannot be varied except via an Ofgem granted Derogation) between the network operator and a user as establishing this was key to ascertaining benefits and associated process and costs associated with this process. To answer this central question, a Workgroup member produced a list of settings / requirements that were not of general application under RfG that the DNO may agree bilaterally with a customer. Another Workgroup member did likewise from a transmission perspective. The Workgroup were then walked through this work and Workgroup comments were reflected. This was then pulled together by the ESO Workgroup representative into a consolidated spreadsheet, which can be found in Annex 2 of this Workgroup Report. For the avoidance of doubt, Annex 2 represents what the spreadsheet that ESO would publish could look like.

Using the spreadsheet in Annex 2 as a basis, the Workgroup also agreed the form of the template that the network operators would actually complete and submit periodically to the ESO. This is set out in Annex 3 and it is proposed that this consolidated template will be added to Grid Code as OC3 Schedule 1.

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<sup>42</sup> The original spreadsheet produced by the Proposer is set out in Annex 1

<sup>43</sup> As approved by the NRA (Ofgem) according to Article 7(1) of RfG or Article 6(1) of DCC.

Note that this consolidated template is focused on RfG (covered by GC0107) and not DCC (covered by GC0113); however, the principles that have been applied in producing the GC0107 consolidated template will be applied when producing the GC0113 consolidated template.

### **What is the associated process for completing this template?**

Workgroup agreed that:

- ESO themselves and DNOs submit the data changes to the ESO;
- ESO would then collate the changes and publish;
- Submission to ESO will only be required where there are four or more Power Stations that are required to be reported on in accordance with the data requested in the spreadsheet. For less than four Power Stations, then only Ofgem would receive the data on request; and
- Legal text will set out the process and timescales involved in providing data to ESO and ESO publishing such data.

There were queries on timing of updates. The Proposer in his original proposal suggested that the updated information is provided to the ESO within one business day and the ESO would then publish the updated spreadsheet within one business day. The Proposer was content to review this should the Workgroup feel that a different timescale would be appropriate. Opinion was divided on these timescales and therefore a Workgroup consultation question has been asked on this.

The workgroup consensus was that the 13 IDNOs should also be included in the scope of this Modification. For this to work in practice, a workgroup member reasoned that there will probably need to be an obligation on DNOs to collect this information from IDNOs via a Distribution Code Modification. It was agreed that a question will be posed as part of the Workgroup consultation to gauge industry views on both these points.

### **What are the benefits of publishing this data?**

Having this consolidated template will allow stakeholders to form a considered view as to the benefits of publishing this information. The Workgroup also considered this question and different conclusions were reached on this matter.

Whilst the Proposer continually reiterated the value being transparency for the industry, other Workgroup members expressed the view that there is limited value in publishing these values as:

- there are very few settings and requirements that can be agreed on a bilateral basis and in most cases such agreement is hypothetically possible rather than has actually happened in the past and/or is unlikely to happen in the future;
  - some relate to settings within a range defined in the Grid Code / EREC G99;
  - some relate to setting on equipment (e.g. power quality monitors) and do not affect the specification for such equipment;
  - for items that can be agreed bilaterally, generally this is where such a setting is due to local issues (such as, for example, the presence of substantial local cabling
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within a connection leading to a need for compensation equipment) so this would be of limited value to other parties; and

- where a setting is set out in the Grid Code either absolutely or within a range, to deviate from this would need a derogation from Ofgem which would also appear on their register.

A Workgroup member also stated that he believed it was erroneous to claim that there was anything in the Ofgem decision letter on GC0100-0102 that supported this proposed modification.

A Workgroup member noted that an ENTSO-E spreadsheet<sup>44</sup> of non-exhaustive values set during the national implementation of RfG/DCC has been produced which includes settings made across every Member State, and therefore could be of greater value to developers and manufacturers whose operations often cross national boundaries. However, the Proposer noted that for GB not all the requirements of general application, let alone those specified by relevant network operators, were on the ENTSO-E spreadsheet and added that the proposed solution would correct this by ensuring transparency. Furthermore, a Workgroup member identified that where values are set in the Grid Code, they cannot be agreed differently on a site specific or bilateral basis unless a derogation were granted by Ofgem and Ofgem's derogation guidance<sup>45</sup> supports this. The Proposer argued that it would be the Requirements for Generators (RfG) derogation procedure that would apply rather than the Grid Code derogation procedure as the changes would relate to the European values being changed. Given the differing views expressed, questions have been included within the workgroup consultation to seek the views of the industry.

Some concerns were expressed about the additional workload, cost and risk (from a compliance with process perspective) this would place on network operators; however, views were expressed that costs would be minimal given the low numbers involved of site specific values that can be agreed bilaterally although this "cost" has not yet been quantified by the Workgroup. Two Workgroup members said they were worried that the very likely low incidence of updates would mean that it was overlooked/forgotten, leading to a technical non-compliance with the Grid Code requirement. A number of Workgroup members remained concerned about the additional cost to network operators without a substantiated benefit having been demonstrated. A Workgroup member also questioned the confidentiality of details in bilateral contracts. A question has been included within the Workgroup consultation to seek the views of the industry.

## **Workgroup Alternatives to Original Solution**

Two possible alternatives were discussed by the Workgroup. These are:

- Limit the application of the modification to those parties with a CUSC contract or other ESO bilateral contract; and

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<sup>44</sup> ENTSO-E implementation monitoring spreadsheet can be found at:  
[https://docstore.entsoe.eu/layouts/15/download.aspx?SourceUrl=https://docstore.entsoe.eu/Documents/Network%20codes%20documents/CNC/CNC\\_Non\\_exhaustive\\_requirements.xlsm](https://docstore.entsoe.eu/layouts/15/download.aspx?SourceUrl=https://docstore.entsoe.eu/Documents/Network%20codes%20documents/CNC/CNC_Non_exhaustive_requirements.xlsm)

<sup>45</sup> [https://www.ofgem.gov.uk/system/files/docs/2017/11/derogations\\_guidance\\_post-con.pdf](https://www.ofgem.gov.uk/system/files/docs/2017/11/derogations_guidance_post-con.pdf)

- As envisaged by the Original, the template for data would be created and the 'general application' values would be generated for it – by reference to where those values are defined in the Grid Code and G99. However, DNOs would not then update this information should there be any individual sites where a non-standard value was agreed for that site. If G99 was formally modified, then that would be reflected in the data proposed by the Original.

The Workgroup agreed that these possible alternatives would not be put forward officially until after the response from the Workgroup consultation is known. Following such response, the Workgroup have agreed that these are formal alternatives and will be known henceforth as WAGCM1 and WAGCM2 respectively.



## 5 Workgroup Consultation – GC0107

The Workgroup met on 13 September 2019 to discuss the 5 responses received from the Workgroup Consultation which ran from 23 July 2019 to 6 September 2019. As the majority of the responses received were from Workgroup Members and reiterated arguments previously articulated, the meeting focused on additional thoughts expressed. In summary, these were:

- Further thoughts on potential costs for Network Operators. Workgroup Members acknowledged that potential costs (particularly on any ongoing management) were hard to quantify but would be modest in absolute terms;
- The Proposer referred to a joint presentation from organisations representing manufacturers on the Grid Connection European Stakeholder Committee, which hinted of deficiencies of the data held in the public domain and therefore supported the argument for the solution he proposed. This view was not shared by some Workgroup Members, with one of these suggesting that this was a generic European view pointing out manifest deficiencies in some member states and also ENTSO's difficulties in pulling together an overall view. As such it was not GB specific. Another Workgroup Member asked for clarity on what information is missing that is of benefit to manufacturers;
- Minor changes were proposed to legal text by a Workgroup Member notably to refer to capturing the generic general application values as well as the bilaterally agreed values; and
- The 2 Workgroup Alternatives (as set out in Section 4 this Workgroup Report), which were discussed prior to issue of the Workgroup Consultation will be raised as formal alternatives. These will henceforth be known as WAGCM1 and WAGCM2.

Other key trends that were prevalent within the Workgroup Consultation responses were:

- Consultation respondents largely did not agree that the GC0107/113 Original proposal better facilitates the Applicable Grid Code Objectives;
- Both DNOs and iDNOs should be included in the scope. However, it was unclear how the obligations will be placed on iDNOs; and
- In response to the question on how often the additional technical data should be a) updated and b) published following bilateral agreement between network operator and User of site specific values, there was clear preference for this to be done annually.

The full suite of Workgroup Consultation Responses are set out in Annex 6 of this Workgroup Report.

### Interaction between GC0107 and GC0113

Workgroup discussed that the proposed solution that was issued for Workgroup Consultation focused on Requirements for Generators (covered by GC0107) and not the Demand Connection Conditions (covered by GC0113). However, it was acknowledged that the principles that have been applied in producing the GC0107 consolidated template will be applied when producing the GC0113 consolidated spreadsheet / template.

At the meeting on 9 October 2019, a DNO member of the Workgroup and the ESO Workgroup Member presented the areas where requirements and settings could be

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agreed on a site specific basis. These were minimal and limited to site specific fault levels, Demand Side Response and a potential wider range of voltage and frequencies. Although there are a minimal amount of requirements and settings that could be defined bilaterally, the Workgroup agreed to run a further Workgroup Consultation for GC0113 on the basis that GC0113 could impact different stakeholder groups.

## 6 Workgroup Consultation – GC0113

The GC0107/113 Workgroup is seeking the views of Grid Code Parties and other interested parties in relation to the issues noted in this document and specifically in response to the questions highlighted in the report and summarised below:

### Standard Workgroup Consultation questions:

- Q1:** Do you believe that GC0113 Original proposal and the 2 proposed Workgroup Alternatives as set out in Annex 8 of this document better facilitates the Applicable Grid Code Objectives?
- Q2:** Do you support the proposed implementation approach?
- Q3:** Do you have any other comments?
- Q4:** Do you wish to raise a Workgroup Consultation Alternative request for the Workgroup to consider?

### Specific GC0113 Workgroup Consultation Questions:

- Q5:** Do you believe that the obligation to track variations from standard settings and requirements should be placed on the 14<sup>46</sup> Distribution Network Operators (DNOs) (as opposed to just the ESO) for providers of Demand Side Response, and do you believe the obligation should also be extended to the 13<sup>47</sup> Independent DNOs (IDNOs) for Demand Side Response connected to their networks? In this latter case, how do you think the obligation on the IDNOs should be imposed?
- Q6:** This modification imposes a new requirement on DNOs for them to share some limited settings and requirements from individual providers of Demand Side Response agreements with the ESO in an anonymous form or with Ofgem (if they

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<sup>46</sup> Eastern Power Networks Plc; Electricity North West Limited; London Power Networks Plc; Northern Powergrid (Northeast) Limited; Northern Powergrid (Yorkshire) Plc; Scottish Hydro Electric Power Distribution Plc; South Eastern Power Networks Plc; Southern Electric Power Distribution Plc; SP Distribution Plc; SP Manweb Plc; Western Power Distribution (East Midlands) Plc; Western Power Distribution (South Wales) Plc; Western Power Distribution (South West) Plc; and, Western Power Distribution (West Midlands) Plc.

<sup>47</sup> Energy Assets Networks Limited; Energetics Electricity Limited; ESP Electricity Limited; Fulcrum Electricity Assets Limited; G2 Energy IDNO Limited; Harlaxton Energy Networks Limited; Independent Power Networks Limited; Leep Electricity Network Limited; Murphy Power Distribution Limited; The Electricity Network Company Limited; UK Power Distribution Limited; Utility Assets Limited; Vattenfall Network Limited according to the public list on Ofgem's website <https://www.ofgem.gov.uk/electricity/distribution-networks/connections-and-competition/independent-distribution-network-operators>

request it). Do stakeholders have any views on this, and in particular how providers of Demand Side Response can be made appropriately aware of the proposal?

- Q7:** How often should the additional settings and requirements be a) updated and b) published following bilateral agreement between network operator and User of site specific values – daily, weekly, monthly, quarterly, six monthly, annually?
- Q8:** How do you feel you will benefit from this proposed modification – please quantify benefit where possible?
- Q9:** What costs and/or risks do you believe would arise from implementing this proposed modification – please quantify these where possible?
- Q10:** The code mapping spreadsheet produced as part of the GB implementation of the European Connection Codes (RfG, DCC and HVDC) includes all Grid Code references where settings required by DCC were made. An ENTSO-E implementation monitoring spreadsheet<sup>48</sup> has also been produced showing the settings made in each member state. What additional value does this modification proposal deliver?
- Q11:** How do you believe the template, which is being consulted on in spreadsheet form (Annex 2) for convenience should be incorporated into the Grid Code legal text? The options include converting it into a plain document table and including it in the Data Registration Code in line with all other formal data requirements, or somehow referring in the legal text to governed version of the spreadsheet. The Workgroup would be pleased to hear views on the balance of the certainty and rigour of the governance of the requirements versus simplicity?
- Q12:** Do you agree that this requirement should be drafted as a new Grid Code section (ie OC3) or would it be better to accommodate in the Planning Code alongside similar data?

Please send your response using the response proforma which can be found on the National Grid ESO website via the following link:

GC0113 - <https://www.nationalgrideso.com/codes/grid-code/modifications/gc0113-open-transparent-non-discriminatory-and-timely-publication>

You may also raise a Workgroup Consultation Alternative Request. If you wish to raise such a request, please use the relevant form available at the weblink below:

<https://www.nationalgrideso.com/codes/grid-code>

Views are invited upon the proposals outlined in this report, which should be received by **5pm on 22 November 2019**.

Your formal responses may be emailed to: [Grid.Code@nationalgrideso.com](mailto:Grid.Code@nationalgrideso.com). If you wish to submit a confidential response, please note that information provided in response to

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this consultation will be published on National Grid' ESO's website unless the response is clearly marked "Private & Confidential", we will contact you to establish the extent of the confidentiality. A response marked "Private & Confidential" will be disclosed to the Authority in full but, unless agreed otherwise, will not be shared with the Grid Code Review Panel or the industry and may therefore not influence the debate to the same extent as a non-confidential response.

Please note that an automatic confidentiality disclaimer generated by your IT System will not in itself, mean that your response is treated as if it had been marked "Private and Confidential".

## 7 Implementation

### **Proposer's initial view:**

The view of the Proposer was that GC0107/113 would require the Grid Code to be amended to set out the procedure for the publication of those values, as set out in the RfG / DCC

- (i) to be specified by the relevant TSO and / or the relevant system operator; and
- (ii) to be coordinated and / or agreed between the relevant TSO and / or the relevant system operator and the power-generating facility owner/the new Demand parties

As per the timetable on Page 2 of this Report, the implementation of this Proposal will take place 10 working days after the Authority have provided its decision.

### **Workgroup agreed position:**

- There should be a 3-month transition period from date of implementation for Network Operators to establish their processes to meet the new obligations and publish the initial version of the spreadsheet populated with the 'general application' settings/requirements; and
  - Network Operators (including ESO) would have 10 Business Days from when new or revised bilateral agreement has been entered into to notify the ESO of the updated settings/requirements. ESO would then have a further 5 Business Days from such notification to publish the updated settings/requirements.
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## 8 Legal Text

### For GC0113 solution:

## OPERATING CODE NO. 3

(OC3)

### CONNECTION AGREEMENTS – GENERIC AND SPECIFIC VALUES

#### CONTENTS

(This contents page does not form part of the Grid Code)

#### OC3.1 INTRODUCTION

OC3.1.1 Operating Code No.3 ("OC3") is concerned with those settings or requirements that are either set within the Grid Code and Distribution Code or can be defined bilaterally within a connection agreement and which stem from the requirements written into the Grid Code to comply with, in OC3.4B, Commission Regulation (EU) 2016/1388 of 17 August 2016 establishing a Network Code on Demand Connection

OC3.1.2 **The Company** and **Network Operators** are required to record such settings or requirements as they are first made and communicate these to **The Company** who will then maintain a publicly accessible register of these.

#### OC3.2 OBJECTIVE

The objectives of OC3 are:

- a) to assemble in one place the complete scope of GB settings or requirements stemming from the **European Regulation (EU) 2016/1388** 'establishing a Network Code on Demand Connection'
- b) to enable the collection of data on the initial generic settings of general application and further on those bilaterally agreed settings and requirements made in connection agreements; and
- c) to set out the mechanisms for the public accessibility and maintenance of such data.

#### OC3.3 SCOPE

OC3 applies to **The Company** and to **Network Operators**,

#### OC3.4B RECORDING AND COMMUNICATION OF GENERIC AND BILATERALLY AGREED SETTINGS FOR DEMAND CONNECTION AGREEMENTS

OC3.4.1B **The Company** shall maintain on its website a fully completed and publicly accessible report of settings and requirements of general application derived from **European Regulation (EU) 2016/1388** 'Demand Connection' together with any of these settings or requirements as set specifically for a transmission connected demand and agreed bilaterally with **The Company** or a **Network Operator**, and will update this as described in OC3.4.2B to OC3.4.5B to incorporate OC3 Schedule 1B submissions received from **Network Operators**.

OC3.4.2B In respect of any bilateral agreement for connection entered into, or substantially modified (as the case may be), and in relation to an **EU Code User** connecting a Transmission-connected Demand

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Facility or Transmission-connected Distribution Facility to the **System** after 7 September 2019, to new **Distribution Systems**, including closed distribution facilities connected to the **System** after 7 September 2019. Also in respect of new **Demand Units** used by a **Demand Facility** or **Closed Distribution System** to provide **Demand Response Services** to **The Company**, as a **Demand Response Provider**, or to provide demand side services to a distribution network operator after 7 September 2019, **The Company** or the relevant distribution network operator will record those settings or requirements set out in OC3 Schedule 1B concerning the specification or performance of such **Main Plant and Apparatus**, contained in the body or appendices of such a bilateral agreement.

OC3.4.3B **The Company** or the relevant **Network Operator** will assess each of the settings or requirements in OC3 Schedule 1B for each of the contracts within the scope of OC3.4.2B and, where there are four or more equal settings or requirements, update the relevant part of OC3 Schedule 1B. The relevant part of OC3 Schedule 1B updated by **The Company** or relevant **Network Operators** should be submitted to **The Company** in the timescales set out in OC3.4.4B. Where there are less than four equal settings or requirements, **The Company** or the relevant **Network Operator** should retain such data for submission to the **Authority** upon its request, and so that it can be used in future assessments of the number of equal settings or requirements.

OC3.4.4B Following the initial publication of the report described in OC3.4.1B, which shall be within 3 months of [the implementation date], where any settings or requirements are to be added or updated in accordance with OC3.4B by **The Company** or the relevant **Network Operator**, such party shall update these settings or requirements in the relevant part of OC3 Schedule 1 and submit these to **The Company**, or upon request the **Authority**, within no more than 10 business days of a new or substantially modified bilateral agreement, falling within the scope of OC3, being entered into.

OC3.4.5B **The Company** shall update the report described in OC3.4.1B published on its website with the information received within no more than 5 business days of such information being received in accordance with OC3.4.4B and which shall not include information available only to the **Authority**.

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**For GC0107 solution:**

**OPERATING CODE NO. 3**

(OC3)

**CONNECTION AGREEMENTS – GENERIC AND SPECIFIC VALUES**

**CONTENTS**

(This contents page does not form part of the Grid Code)

**OC3.1 INTRODUCTION**

OC3.1.1 Operating Code No.3 ("OC3") is concerned with those settings or requirements that are either set within the Grid Code and Distribution Code or that can be defined bilaterally within a connection agreement and which stem from the requirements written into the Grid Code to comply with, in OC3.4A Commission Regulation (EU) 2016/631 establishing a network code on requirements for grid connection of generators.

OC3.1.2 **The Company** and **Network Operators** are required to record such settings or requirements as they are made and communicate these to **The Company** who will then maintain a publicly accessible register of these.

**OC3.2 OBJECTIVE**

The objectives of OC3 are:

- a) to assemble in one place the complete scope of GB settings or requirements stemming from the **European Regulation (EU) 2016/631** 'Requirements for Generators'
- b) to enable the collection of data on the initial generic settings of general application and further on those bilaterally agreed settings and requirements made in connection agreements; and
- c) to set out the mechanisms for the public accessibility and maintenance of such data.

**OC3.3 SCOPE**

OC3 applies to **The Company** and to **Network Operators**,

**OC3.4A RECORDING AND COMMUNICATION OF GENERIC AND BILATERALLY AGREED SETTINGS FOR GENERATION CONNECTION AGREEMENTS**

OC3.4.1A **The Company** shall maintain on its website a fully completed and publicly accessible report of settings and requirements of general application derived from **European Regulation (EU) 2016/631** 'Requirements for Generators' together with any of these settings or requirements as set specifically for a **Power Station** and agreed bilaterally with **The Company** or a **Network Operator**, and will update this as described in OC3.4.2 to OC3.4.5 to incorporate OC3 Schedule 1A submissions received from **Network Operators**.

OC3.4.2A In respect of any bilateral agreement for connection entered into, or substantially modified (as the case may be), and in relation to an **EU Code User** or an **Embedded Generator** connecting a Type A, B, C or D **Power Generating Module** to the **System** after 27 April 2019, **The Company** or the relevant **Network Operator** will record those settings or requirements set out in OC3 Schedule 1A concerning the specification or performance of such **Main Plant and Apparatus**, contained in the body or appendices of such a bilateral agreement.

OC3.4.3A **The Company** or the relevant **Network Operator** will assess each of the settings or requirements in OC3 Schedule 1A for each of the bilateral agreements within the scope of OC3.4.2A and, where there are four or more equal settings or requirements, update the relevant part of OC3 Schedule 1A.

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The relevant part of OC3 Schedule 1A updated by **The Company** or relevant **Network Operators** should be submitted to **The Company** in the timescales set out in OC3.4.4A. Where there are less than four equal settings or requirements, **The Company** or the relevant **Network Operator** should retain such data for submission to the **Authority** upon its request, and so that it can be used in future assessments of the number of equal settings or requirements.

OC3.4.4A Following the initial publication of the report described in OC3.4.1A, which shall be within 3 months of [the implementation date], where any settings or requirements are to be added or updated in accordance with OC3.4A by **The Company** or the relevant **Network Operator**, such party shall update these settings or requirements in the relevant part of OC3 Schedule 1A and submit these to **The Company**, or upon request the **Authority**, within no more than 10 business days of a new or substantially modified bilateral agreement, falling within the scope of OC3, being entered into.

OC3.4.5A **The Company** shall update the report described in OC3.4.1A published on its website with the information received within no more than 5 business days of such information being received in accordance with OC3.4.4A and which shall not include information available only to the **Authority**.

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## **Combined GC0107/GC0113 solution:**

### **OPERATING CODE NO. 3**

(OC3)

#### **CONNECTION AGREEMENTS – GENERIC AND SPECIFIC VALUES**

#### **CONTENTS**

(This contents page does not form part of the Grid Code)

#### **OC3.1 INTRODUCTION**

OC3.1.1 Operating Code No.3 ("OC3") is concerned with those settings or requirements that are either set within the Grid Code and Distribution Code or can be defined bilaterally within a connection agreement and which stem from the requirements written into the Grid Code to comply with, in OC3.4A Commission Regulation (EU) 2016/631 establishing a network code on requirements for grid connection of generators and OC3.4B Commission Regulation (EU) 2016/1388 of 17 August 2016 establishing a Network Code on Demand Connection

OC3.1.2 **The Company** and **Network Operators** are required to record such settings or requirements as they are made and communicate these to **The Company** who will then maintain a publicly accessible register of these.

#### **OC3.2 OBJECTIVE**

The objectives of OC3 are:

- a) to assemble in one place the complete scope of GB settings or requirements stemming from the **European Regulation (EU) 2016/631** 'Requirements for Generators' and **European Regulation (EU) 2016/1388** 'establishing a Network Code on Demand Connection'
- b) to enable the collection of data on the initial generic settings of general application and further on those bilaterally agreed settings and requirements made in connection agreements; and
- c) to set out the mechanisms for the public accessibility and maintenance of such data.

#### **OC3.3 SCOPE**

OC3 applies to **The Company** and to **Network Operators**,

#### **OC3.4A RECORDING AND COMMUNICATION OF GENERIC AND BILATERALLY AGREED SETTINGS FOR GENERATION CONNECTION AGREEMENTS**

OC3.4.1A **The Company** shall maintain on its website a fully completed and publicly accessible report of settings and requirements of general application derived from **European Regulation (EU) 2016/631** 'Requirements for Generators' together with any of these settings or requirements as set specifically for a **Power Station** and agreed bilaterally with **The Company** or a **Network Operator**, and will update this as described in OC3.4.2 to OC3.4.5 to incorporate OC3 Schedule 1A submissions received from **Network Operators**.

OC3.4.2A In respect of any bilateral agreement for connection entered into, or substantially modified (as the case may be), and in relation to an **EU Code User** or an **Embedded Generator** connecting a Type A, B, C or D **Power Generating Module** to the **System** after 27 April 2019, **The Company** or the relevant

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**Network Operator** will record those settings or requirements set out in OC3 Schedule 1A concerning the specification or performance of such **Main Plant and Apparatus**, contained in the body or appendices of such a bilateral agreement.

OC3.4.3A **The Company** or the relevant **Network Operator** will assess each of the settings or requirements in OC3 Schedule 1A for each of the bilateral agreements within the scope of OC3.4.2A and, where there are four or more equal settings or requirements, update the relevant part of OC3 Schedule 1A. The relevant part of OC3 Schedule 1 updated by **The Company** or relevant **Network Operators** should be submitted to **The Company** in the timescales set out in OC3.4.4A. Where there are less than four equal settings or requirements, **The Company** or the relevant **Network Operator** should retain such data for submission to the **Authority** upon its request, and so that it can be used in future assessments of the number of equal settings or requirements.

OC3.4.4A Following the initial publication of the report described in OC3.4.1A, which shall be within 3 months of [the implementation date], where any settings or requirements are to be added or updated in accordance with OC3.4A by **The Company** or the relevant **Network Operator**, such party shall update these settings or requirements in the relevant part of OC3 Schedule 1A and submit these to **The Company**, or upon request the **Authority**, within no more than 10 business days of a new or substantially modified bilateral agreement, falling within the scope of OC3, being entered into.

OC3.4.5A **The Company** shall update the report described in OC3.4.1A published on its website with the information received within no more than 5 business days of such information being received in accordance with OC3.4.4A and which shall not include information available only to the **Authority**.

#### OC3.4B RECORDING AND COMMUNICATION OF GENERIC AND BILATERALLY AGREED SETTINGS FOR DEMAND CONNECTION AGREEMENTS

OC3.4.1B **The Company** shall maintain on its website a fully completed and publicly accessible report of settings and requirements of general application derived from **European Regulation (EU) 2016/1388** 'Demand Connection' together with any of these settings or requirements as set specifically for a transmission connected demand and agreed bilaterally with **The Company** or a **Network Operator**, and will update this as described in OC3.4.2B to OC3.4.5B to incorporate OC3 Schedule 1B submissions received from **Network Operators**.

OC3.4.2B In respect of any bilateral agreement for connection entered into, or substantially modified (as the case may be), and in relation to an **EU Code User** connecting a Transmission-connected Demand Facility or Transmission-connected Distribution Facility to the **System** after 7 September 2019, to new Distribution Systems, including closed distribution facilities connected to the **System** after 7 September 2019, or to new demand units used by a demand facility or closed distribution system to provide demand response services to **The Company**, as a **Demand Response Provider**, or to a **Network Operator** after 7 September 2019, **The Company** or the relevant **Network Operator** will record those settings or requirements set out in OC3 Schedule 1B concerning the specification or performance of such **Main Plant and Apparatus**, contained in the body or appendices of such a bilateral agreement.

OC3.4.3B **The Company** or the relevant **Network Operator** will assess each of the settings or requirements in OC3 Schedule 1B for each of the bilateral agreements within the scope of OC3.4.2B and, where there are four or more equal settings or requirements, update the relevant part of OC3 Schedule 1. The relevant part of OC3 Schedule 1B updated by **The Company** or relevant **Network Operators** should be submitted to **The Company** in the timescales set out in OC3.4.4B. Where there are less than four equal settings or requirements, **The Company** or the relevant **Network Operator** should retain such data for

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submission to the **Authority** upon its request, and so that it can be used in future assessments of the number of equal settings or requirements.

OC3.4.4B Following the initial publication of the report described in OC3.4.1B, which shall be within 3 months of [the implementation date], where any settings or requirements are to be added or updated in accordance with OC3.4B by **The Company** or the relevant **Network Operator**, such party shall update these settings or requirements in the relevant part of OC3 Schedule 1 and submit these to **The Company**, or upon request the **Authority**, within no more than 10 business days of a new or substantially modified bilateral agreement, falling within the scope of OC3, being entered into.

OC3.4.5B **The Company** shall update the report described in OC3.4.1B published on its website with the information received within no more than 5 business days of such information being received in accordance with OC3.4.4B and which shall not include information available only to the **Authority**.

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## **Annex 1: Original Spreadsheet produced by the Proposer**

This is the original spreadsheet that was produced by the Proposer.

## **Annex 2: Proposed Spreadsheet produced by Workgroup**

Taking the original spreadsheet that was produced by the Proposer, this was the consolidated spreadsheet produced by the Workgroup which covers all RfG requirements.

A separate spreadsheet for DCC requirements has also been created.

Workgroup propose that these spreadsheets will be housed with the Relevant Electrical Standards and will therefore, in the event of any changes, will be subject to governance at the Grid Code Review Panel.

## **Annex 3: Proposed Grid Code Template produced by Workgroup**

This is the template that network operators will need to submit periodically to the ESO.

This template will be included in Grid Code OC3 Schedule 1.

## **Annex 4: GC0107/113 Terms of Reference**

This is the Terms of Reference agreed at the Grid Code Review Panel.

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## Annex 5: GC0107/113 Attendance Register

A – Attended

X – Absent

AO – Attended as an Observer

Name	Organisation	Role	05/12/18	15/03/19	10/04/19	13/05/19	19/06/19	10/07/19	23/07/19	13/09/19	09/10/19
Garth Graham	SSE Generation Ltd.	Proposer	A	A	A	A	A	A	A	A	A
Rachel Woodbridge-Stocks	National Grid Electricity System Operator	NGESO Representative	X	A	A	X	X	X	X	X	X
Rob Wilson	National Grid Electricity System Operator	NGESO Representative Alternate	A	X	X	A	A	A	A	A	A
Mike Kay	P2Analysis	Workgroup member	A	A	A	A	A	A	A	A	A
Liqui Han	RWE Generation UK	Workgroup member	AO	A	X	X	A	A	X	X	X
Paul Youngman	Drax Power Ltd	Workgroup member	X	A	A	A	A	X	A	X	A
Joshua Logan	Drax Power Ltd	Alternate Member for Paul Youngman	X	X	X	X	X	X	X	A	X
Paul Crolla	ScottishPower Renewables	Alternate Member for Isaac Gutierrez	X	A	X	A	X	A	X	A	A

Isaac Gutierrez	ScottishPower Renewables	Workgroup member	A	X	X	X	X	X	X	X	X
Tim Ellingham	RWE Generation UK	Workgroup member	A	X	X	A	X	X	X	X	X
Gregory Middleton	Deep Sea Plc	Workgroup member	A	A	A	X	X	X	X	X	X
Alan Creighton	Northern Power Grid	Workgroup member	A	X	A	A	A	A	A	A	A

## **Annex 6: Workgroup Consultation Responses for GC0107**

This sets out the Workgroup Consultation Responses received as part of the Workgroup Consultation which ran from 23 July 2019 to 5pm on 6 September 2019.

## **Annex 7: Proposed Workgroup Alternatives for GC0107**

This sets out 2 proposed Workgroup Alternatives to the GC0107 Original Solution.

## **Annex 8: Proposed Workgroup Alternatives for GC0113**

This sets out 2 proposed Workgroup Alternatives to the GC0113 Original Solution.