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| **Stage 3: Workgroup Report** | | At what stage is this document in the process? |
| GC0107/113  Mod Title: 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) | | 01  02  Workgroup Consultation  Proposal form  Code Administrator  Consultation  04  Final Grid Code Modification Report  06  Draft Grid Code Modification Report  Consultation  05  Workgroup Report  03 |
| **Purpose of Modification:** 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. | | |
| Description: Description: YES_GREEN | This document contains the discussion of the Workgroup which formed in 18 November 2017 to develop and assess the proposal, the responses to the Workgroup Consultation which closed on 6 September 2019, the voting of the Workgroup held on XX Month 2019 for GC0107 and XX Month 2019 for GC0113 and the Workgroup’s final conclusions. | |
| Description: Description: High_Impact | **High Impact** | |
| Description: Description: Low_Impact | **Medium Impact**: Transmission Owners (including OFTOs), Interconnectors, Electricity System Operator (ESO), external Transmission System Operators (TSOs), Distribution Network Operators (DNOs), Generators | |
| Description: Description: Medium_Impact | **Low Impact**: None | |
|  | The Workgroup concludes:  [To be inserted following Workgroup Vote] | |

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| Contents  1 About this document 3  2 Original Proposal 5  3 Proposer’s solution 7  4 Workgroup Discussions 13  5 Workgroup Consultation Responses 15  6 Implementation 16  7 Legal Text 17  8 Annex 1: Original Spreadsheet produced by the Proposer 20  9 Annex 2: Proposed Spreadsheet produced by Workgroup 20  10 Annex 3: Proposed Grid Code Template produced by  Workgroup 20  11 Annex 4: GC0107/113 Terms of Reference 20  12 Annex 5 GC0107/113 Attendance Register 20  Timetable   |  |  | | --- | --- | | **The Code Administrator recommends the following expedited timetable:** | | | Workgroup Report presented to Panel | November 2017 | | Initial consideration by Workgroup | 18 November 2017 | | Workgroup Consultation issued to the Industry | 31 July 2019 | | Modification concluded by Workgroup | 29 October 2019 | | Workgroup Report presented to Panel | 28 November 2019 | | Code Administration Consultation Report issued to the Industry | 1 December 2019 | | Draft Final Modification Report presented to Panel | X January 2020 | | Modification Panel decision | X January 2020 | | Final Modification Report issued to the Authority | February 2020 | | Decision from Authority | March 2020 | | Decision implemented in Grid Code | 10 working days after approval by the Authority) | | **Any questions?** |
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# About this document

This document is the Workgroup Report that contains the discussion of the Workgroup which formed in 18 November 2017 to develop and assess the two proposals, the responses to the Workgroup Consultation which closed on 6 September 2019, the voting of the Workgroup held on XX Month 2019 for GC0107 and XX Month 2019 for GC0113 and the Workgroup’s final conclusions.

Modification Numbers GC0107 and GC0113 were proposed by SSE Generation Limited in November 2017 and April 2018 respectively. GC0107 and GC0113 seek to obligate 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. However, this consultation focuses on GC0107 and depending on the responses from this consultant, a further consultation may be held to address GC0113.

**Workgroup Conclusions**

At the final Workgroup meeting, Workgroup members voted on the Original Proposal and the Workgroup Alternative Grid Code Modifications. [To be inserted following Workgroup Vote]

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.

Table 1: GC0107/113 Terms of Reference

|  |  |
| --- | --- |
| **Specific Area** | **Location in the report** |
| 1. Implementation | Section 4 and 6 |
| 1. 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 7 |
| 1. 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 |
| 1. 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 |
| 1. Whether parties can be obligated to populate the proposed spreadsheet | Section 4 and 7 |
| 1. Estimation of the costs and benefits of populating and maintaining the proposed spreadsheet | Section 4 and 5 |
| 1. Agree the process for the options for publication of the proposed spreadsheet | Section 4 |

Table of Acronyms

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| **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 |

# 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[[1]](#footnote-1)/DCC[[2]](#footnote-2) 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:

1. to be specified by the relevant TSO and / or the relevant system operator; and
2. 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 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.

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[[3]](#footnote-3) 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[[4]](#footnote-4) 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:

1. the relevant TSO; or
2. the relevant TSO and the relevant system operator; or
3. the relevant system operator; or
4. 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[[5]](#footnote-5).

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:

1. *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)[[6]](#footnote-6) or 14 (5) (d) (ii)[[7]](#footnote-7) ; or
2. (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)[[8]](#footnote-8) or 16 (2)(b)[[9]](#footnote-9).

In respect of the *generic value*, as set out in the RfG, for example, at recital (3)[[10]](#footnote-10), 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[[11]](#footnote-11), 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.

It is proposed that, if approved, the party or parties who are responsible for the specification of the value(s)[[12]](#footnote-12) 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[[13]](#footnote-13) by Tuesday 1st May 2018 at the latest, although they would be free to do so prior to this date if they wished[[14]](#footnote-14).

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[[15]](#footnote-15) they would provide to National Grid SO[[16]](#footnote-16) their updated value[[17]](#footnote-17) within one Business Day of the party or parties specifying the new said value[[18]](#footnote-18) and National Grid SO would, within one Business Day amend, update and (re)publish the transparent reporting template. The change in the said value[[19]](#footnote-19) would take effect from 00:01 on the next Business Day after the Business Day[[20]](#footnote-20) 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[[21]](#footnote-21) concerned would also be placed on the transparent reporting template[[22]](#footnote-22) by the relevant organisation[[23]](#footnote-23) (or, if appropriate, organisations). We have shown this in columns AZ-BS (in orange) in the illustrative representation of the transparent reporting template.

**GC0113**

The initial thinking is that the approach set out in GC0107 (which deals with the equivalent publication of items related to the RfG[[24]](#footnote-24)) should be applied with respect to the Demand Connection Network Code.

Therefore, as with GC0107, the Ofgem Multiple TSO Allocation spreadsheet[[25]](#footnote-25)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[[26]](#footnote-26) 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:

1. the relevant TSO; or
2. the relevant TSO and the relevant system operator; or
3. the relevant system operator; or
4. the relevant TSO and / or the relevant system operator and the relevant party (as per Article 3(1) (a)-(d)[[27]](#footnote-27)).

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[[28]](#footnote-28).

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).

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:

1. 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
2. (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[[29]](#footnote-29), 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)[[30]](#footnote-30) 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[[31]](#footnote-31) by Friday 7th December 2018 at the latest, although they would be free to do so prior to this date if they wished[[32]](#footnote-32).

Where, going forward beyond Friday 7th December 2018, the party or parties who are responsible for the specification of the value(s) etc., wished to change the said value[[33]](#footnote-33)they would provide to National Grid SO[[34]](#footnote-34) their updated value[[35]](#footnote-35) within one Business Day of the party or parties specifying the new said value15 and National Grid SO would, within one Business Day amend, update and (re)publish the transparent reporting template.

The change in the said value[[36]](#footnote-36) would take effect from 00:01 on the next Business Day after the Business Day[[37]](#footnote-37) 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)[[38]](#footnote-38)

Finally, for completeness, we would propose that where a derogation has been granted by Ofgem that the value[[39]](#footnote-39) concerned would also be placed on the transparent reporting template[[40]](#footnote-40) by the relevant organisation[[41]](#footnote-41) (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.

#### 10/11 Workgroup meetings were held.

**Summary of Proposer’s original solution**

The Proposer’s original solution was:

* Creation of a spreadsheet[[42]](#footnote-42) that relevant network operators such as Transmission System Operators (TSOs) and Distribution Network Operators (DNOs) will be required to completed and published by the ESO; and
* Development of new legal text for the Grid Code to obligate 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[[43]](#footnote-43), 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.

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 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[[44]](#footnote-44) 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[[45]](#footnote-45) 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
* 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.

# Workgroup Consultation Summary

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;
* 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 and not GB specific and another asking 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. 2 Workgroup members agreed to work up the solution for GC0113 and present at next Workgroup meeting. It was also agreed at the September Grid Code Review Panel that the Workgroup Report will be presented to Panel once both the GC0107 and GC0113 solution were finalised.

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

1. to be specified by the relevant TSO and / or the relevant system operator; and
2. 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.

Legal Text

**OPERATING CODE NO. 3**

**(OC3)**

**POWER GENERATING MODULES – 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 can be defined bilaterally within a connection agreement and which stem from the requirements written into the Grid Code to comply with **European Regulation (EU) 2016/631** ‘Requirements for Generators’.

OC3.1.2 **The Company** and **Network Operator**s 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 enable the collection of data on bilaterally agreed settings and requirements made in connection agreements; and

b) 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**,

OC3.4 RECORDING AND COMMUNICATION OF BILATERALLY AGREED SETTINGS

OC3.4.1 **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 1 submissions received from **Network Operators**.

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

OC3.4.3 **The Company** or the relevant **Network Operator** will assess each of the settings or requirements in OC3 Schedule 1 for each of the bilateral agreements within the scope of OC3.4.2 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 1 updated by **The Company** or relevant **Network Operators** should be submitted to **The Company** in the timescales set out in OC3.4.4. 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.

OC3.4.4 Following the initial publication of the report described in OC3.4.1, which shall be within 3 months of [the implementation date], where any settings or requirements are to be added or updated in accordance with OC3.4 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.

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

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 will be 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.

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** |
| Garth Graham | SSE Generation Ltd. | Proposer | 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 |
| Rob Wilson | National Grid Electricity System Operator | NGESO Representative Alternate | A | X | X | A | A | A | A | A |
| Mike Kay | P2Anaylsis | Workgroup member | A | A | A | A | A | A | A | A |
| Liqui Han | RWE Generation UK | Workgroup member | AO | A | X | X | A | A | X | X |
| Paul Youngman | Drax Power Ltd | Workgroup member | X | A | A | A | A | X | A | X |
| Joshua Logan | Drax Power Ltd | Alternate Member for Paul Youngman | X | X | X | X | X | X | X | A |
| Paul Crolla | ScottishPower Renewables | Alternate Member for Isaac Gutierrez | X | A | X | A | X | A | X | A |
| Isaac Gutierrez | ScottishPower Renewables | Workgroup member | A | X | X | X | X | X | X | X |
| Tim Ellingham | RWE Generation UK | Workgroup member | A | X | X | A | X | X | X | X |
| Gregory Middleton | Deep Sea Plc | Workgroup member | A | A | A | X | X | X | X | X |
| Alan Creighton | Northern Power Grid | Workgroup member | A | X | A | A | A | A | A | A |

Annex 6: Workgroup Consultation Responses

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.

1. ‘Requirement for Generator’ Network Code – Regulation 2016/631

   <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32016R0631&from=EN> [↑](#footnote-ref-1)
2. 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. [↑](#footnote-ref-2)
3. 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 [↑](#footnote-ref-3)
4. Or, where applicable, value range. [↑](#footnote-ref-4)
5. 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. [↑](#footnote-ref-5)
6. 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.” [↑](#footnote-ref-6)
7. 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 specifiedby the relevant system operator or the relevant TSO;” [↑](#footnote-ref-7)
8. 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” [↑](#footnote-ref-8)
9. 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.” [↑](#footnote-ref-9)
10. 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.” [↑](#footnote-ref-10)
11. Or where a derogation has been applied for and been granted by the NRA. [↑](#footnote-ref-11)
12. Or, if appropriate, range of values. [↑](#footnote-ref-12)
13. Or, if appropriate, range of values. [↑](#footnote-ref-13)
14. 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. [↑](#footnote-ref-14)
15. Or, if appropriate, range of values. [↑](#footnote-ref-15)
16. As the Grid Code (Code) Administrator. [↑](#footnote-ref-16)
17. Or, if appropriate, range of values. [↑](#footnote-ref-17)
18. Or, if appropriate, range of values. [↑](#footnote-ref-18)
19. Or, if appropriate, range of values. [↑](#footnote-ref-19)
20. Thus, a change published by ESO during Wednesday would take effect from 00:01 on Thursday. [↑](#footnote-ref-20)
21. Or, if appropriate, range of values. [↑](#footnote-ref-21)
22. We would suggest this be done within two Business Days of the publication of the [↑](#footnote-ref-22)
23. Such as the Relevant ISO or Relevant System Operator. [↑](#footnote-ref-23)
24. Regulation 2016/631 [↑](#footnote-ref-24)
25. 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> [↑](#footnote-ref-25)
26. Or, where applicable, value range. [↑](#footnote-ref-26)
27. (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 [↑](#footnote-ref-27)
28. 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. [↑](#footnote-ref-28)
29. Or where a derogation has been applied for and been granted by the NRA. [↑](#footnote-ref-29)
30. Or, if appropriate, range of values. [↑](#footnote-ref-30)
31. Or, if appropriate, range of values. [↑](#footnote-ref-31)
32. 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. [↑](#footnote-ref-32)
33. Or, if appropriate, range of values. [↑](#footnote-ref-33)
34. As the Grid Code (Code) Administrator. [↑](#footnote-ref-34)
35. Or, if appropriate, range of values [↑](#footnote-ref-35)
36. Or, if appropriate, range of values. [↑](#footnote-ref-36)
37. Thus a change published by NG SO during Wednesday would take effect from 00:01 on Thursday. [↑](#footnote-ref-37)
38. 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. [↑](#footnote-ref-38)
39. .Or, if appropriate, range of values [↑](#footnote-ref-39)
40. We would suggest this be done within two Business Days of the publication of the Ofgem derogation notification. [↑](#footnote-ref-40)
41. Such as the Relevant TSO or Relevant System Operator [↑](#footnote-ref-41)
42. The original spreadsheet produced by the Proposer is set out in Annex 1 [↑](#footnote-ref-42)
43. As approved by the NRA (Ofgem) according to Article 7(1) of RfG or Article 6(1) of DCC. [↑](#footnote-ref-43)
44. 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> [↑](#footnote-ref-44)
45. <https://www.ofgem.gov.uk/system/files/docs/2017/11/derogations_guidance_post-con.pdf> [↑](#footnote-ref-45)