

| Stage 6: Final Grid Code Modification Report | | At what stage is this document in the process? | | | | | | | | | | | | |
|---|--|--|----|---------------|----|------------------------|----|------------------|----|---------------------------------|----|-------------------------------------|----|-------------------------------------|
| <h1 style="color: #00a651;">GC0107/113</h1> <p>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> | <table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td style="border: 1px solid black; border-radius: 10px; text-align: center;">01</td> <td style="border: 1px solid black; border-radius: 10px; padding: 5px;">Proposal form</td> </tr> <tr> <td style="border: 1px solid black; border-radius: 10px; text-align: center;">02</td> <td style="border: 1px solid black; border-radius: 10px; padding: 5px;">Workgroup Consultation</td> </tr> <tr> <td style="border: 1px solid black; border-radius: 10px; text-align: center;">03</td> <td style="border: 1px solid black; border-radius: 10px; padding: 5px;">Workgroup Report</td> </tr> <tr> <td style="border: 1px solid black; border-radius: 10px; text-align: center;">04</td> <td style="border: 1px solid black; border-radius: 10px; padding: 5px;">Code Administrator Consultation</td> </tr> <tr> <td style="border: 1px solid black; border-radius: 10px; text-align: center;">05</td> <td style="border: 1px solid black; border-radius: 10px; padding: 5px;">Draft Grid Code Modification Report</td> </tr> <tr> <td style="background-color: #00a651; color: white; border: 1px solid black; border-radius: 10px; text-align: center;">06</td> <td style="background-color: #00a651; color: white; border: 1px solid black; border-radius: 10px; padding: 5px;">Final Grid Code Modification Report</td> </tr> </table> | | 01 | Proposal form | 02 | Workgroup Consultation | 03 | Workgroup Report | 04 | Code Administrator Consultation | 05 | Draft Grid Code Modification Report | 06 | Final Grid Code Modification Report |
| 01 | Proposal form | | | | | | | | | | | | | |
| 02 | Workgroup Consultation | | | | | | | | | | | | | |
| 03 | Workgroup Report | | | | | | | | | | | | | |
| 04 | Code Administrator Consultation | | | | | | | | | | | | | |
| 05 | Draft Grid Code Modification Report | | | | | | | | | | | | | |
| 06 | Final Grid Code Modification Report | | | | | | | | | | | | | |
| <p>Purpose of Modification: Seeks to publish generic and/or specific values in connection agreements stemming from the Requirements for Generators (GC0107) and the Demand Connection Code (GC0113).</p> | | | | | | | | | | | | | | |
|  | <p>This Final Modification Report has been prepared in accordance with the terms of Grid Code. An electronic version of this final document and all other GC0107 and GC0113 related documentation can be found on the National Grid ESO website via the following link:</p> <p>GC0107: https://www.nationalgrideso.com/codes/grid-code/modifications/gc0107-open-transparent-non-discriminatory-and-timely-publication</p> <p>GC0113: https://www.nationalgrideso.com/codes/grid-code/modifications/gc0113-open-transparent-non-discriminatory-and-timely-publication</p> <p>At the Grid Code Review Panel meeting on 26 March 2020, the Panel voted on whether the Original Proposal, WAGCM1 or WAGCM2 for both GC0107 and GC0113 better facilitated the Grid Code objectives. The Panel recommended that no change is made to the Grid Code for both GC0107 and GC0113. Four Panel members voted that the Original was the best option and five members voted that the baseline was the best option. All Panel members who voted stated that their votes applied to both GC0107 and GC0113.</p> <p>The purpose of this document is to assist the Authority in making its determination on whether to implement GC0107 and/or GC0113 into the Grid Code. Although GC0107 and GC0113 were progressed together, GC0107 and GC0113 should be considered on their merits separately. The Authority could decide to approve none of, both of, or one of GC0107 (Original, WAGCM1 or WAGCM2) and GC0113 (Original, WAGCM1 or WAGCM2).</p> | | | | | | | | | | | | | |
|  | <p>Medium Impact: Transmission Owners (including OFTOs), Interconnectors, Electricity System Operator (ESO), external Transmission System Operators (TSOs), Distribution Network Operators (DNOs), Generators</p> | | | | | | | | | | | | | |

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|---|---|
|  | <p>The Workgroup concluded for both GC0107 and GC0113 which were voted on separately:</p> <ul style="list-style-type: none"> • The Workgroup concluded by majority (4 out of 7 votes) that the Original better facilitated the Applicable Grid Code Objectives than the baseline; however, the Workgroup concluded by majority (4 out of 7 votes) that both WAGCM1 and WAGCM2 did not better facilitate the Applicable Grid Code Objectives than the baseline; • The Workgroup concluded by majority that WACM1 better facilitated the Applicable Grid Code Objectives than the Original by 4 votes to 3; however, the Workgroup concluded by majority that WAGCM2 did not better facilitate the Applicable Grid Code Objectives than the Original; and • 3 Workgroup Members voted that the Baseline was the best option, 2 votes were cast for the Original and 1 vote each was cast for WAGCM1 and WAGCM2. |
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Timetable

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| Initial consideration by Workgroup | 18 November 2017 |
| Workgroup Report presented to Panel | 30 January 2020 |
| Code Administrator Consultation | 14 February 2020 to 6 March 2020 |
| Draft Final Modification Report presented to Panel | 18 March 2020 |
| Modification Panel decision | 26 March 2020 |
| Final Modification Report issued to the Authority | 9 April 2020 |
| Anticipated Decision from Authority | 19 May 2020 |
| Decision implemented in Grid Code | 10 working days after approval by the Authority) |

1 About this document

This document is the Final Modification 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 responses to the Workgroup Consultation for GC0113 which closed on 22 November 2019 the voting of the Workgroup held on 27 November 2019 for both GC0107 and GC0113 and the Workgroup's final conclusions. The Grid Code Review Panel reviewed the Workgroup Report at their Grid Code Review Panel meeting on 30 January 2020 and agreed that the Workgroup had met its Terms of Reference and that the Workgroup could be discharged. This document also contains the responses received from the Code Administrator Consultation, which closed on 6 March 2020.

Background

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.

Workgroup Alternatives have been proposed for both the GC0107 and GC0113 solution. These alternatives are set out in Annex 8 and 9 of this report respectively. In summary:

- WAGCM1 for both GC0107 and GC0113 is the same as the Original except there would be no ongoing activity for Distribution Network Operators (unless G99 is formally modified in a way that affects the list of data items); and
- WAGCM2 for both GC0107 and GC0113 would exclude distribution connected parties (those without a CUSC or other National Grid ESO bilateral contract) from the scope of the modification.

A Workgroup Consultation was run for GC0107, which closed on 6 September 2019 and 5 responses were received. A summary of these responses to this consultation are set out in Section 5 and set out in full in Annex 6 of this report.

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, which closed on 22 November 2019 and 4 responses were received. A summary of these responses to this consultation are set out in Section 6 and set out in full in Annex 7 of this report

Workgroup Conclusions

- The Workgroup concluded by majority (4 out of 7 votes) that the Original better facilitated the Applicable Grid Code Objectives than the baseline; however, the Workgroup concluded by majority (4 out of 7 votes) that both WAGCM1 and WAGCM2 did not better facilitate the Applicable Grid Code Objectives than the baseline;
- The Workgroup concluded by majority that WAGCM1 better facilitated the Applicable Grid Code Objectives than the Original by 4 votes to 3; however, the Workgroup concluded by majority that WAGCM2 did not better facilitate the Applicable Grid Code Objectives than the Original; and
- 3 Workgroup Members voted that the Baseline was the best option, 2 votes were cast for the Original and 1 vote each was cast for WAGCM1 and WAGCM2.

Code Administrator Consultation Responses

6 responses were received in response to the Code Administrator Consultation with 4 of these from the ESO or Network Operators and 2 of these from Generators. These can be found in Annex 11 of this Report.

A summary of these responses can be found in section 10 of this Report.

- All 4 of the ESO or Network Operator respondents did not believe that the Original and 2 WAGCMs better facilitated the Grid Code Objectives than the Baseline. The main points articulated were:
 - The vast majority of settings and requirements that stakeholders need to comply with are already available in public documents and any variations from these are rare and very site specific; and
 - The respondents stated they will have additional process responsibilities and compliance risks which outweigh the benefits (which are also not clear in their opinion).
- However, both the Generator respondents (including the Proposer) were supportive of the Original Proposal. They welcomed the transparency and 1

respondent argued that this was particularly important given the increase in embedded generation.

Panel Views

At the Grid Code Review Panel meeting on 26 March 2020, the Panel voted on whether the Original Proposal, WAGCM1 or WAGCM2 for both GC0107 and GC0113 better facilitated the Grid Code objectives. The Panel recommended that no change is made to the Grid Code for both GC0107 and GC0113. Four Panel members voted that the Original was the best option and five members voted that the baseline was the best option. All Panel members who voted stated that their votes applied to both GC0107 and GC0113.

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 RfG¹/DCC² 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:

- 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

¹ 'Requirement for Generator' Network Code – Regulation 2016/631
<http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32016R0631&from=EN>

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.

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.

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 Code administrator consultation contains the discussion by the Workgroup on the Proposal and the potential solution.

GC0107

The initial thinking is that the Ofgem Multiple TSO Allocation spreadsheet³ will be amended, by the addition of columns to the right (of those already shown) to act as a transparent reporting template.

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>

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 value⁴ 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 DNOs⁵.

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)⁶ or 14 (5) (d) (ii)⁷ ; 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)⁸ or 16 (2)(b)⁹.

⁴ Or, where applicable, value range.

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.

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."

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 specified by the relevant system operator or the relevant TSO;"

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"

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."

In respect of the generic value, as set out in the RfG, for example, at recital (3)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 applied¹¹, 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 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 value¹³ by Tuesday 1st May 2018 at the latest, although they would be free to do so prior to this date if they wished¹⁴.

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 value¹⁵ they would provide to National Grid SO¹⁶ their updated value¹⁷ within one Business Day of the party or parties specifying the new said value¹⁸ and National Grid SO would, within one Business Day amend, update and (re)publish the transparent reporting template. The change in the said value¹⁹ would take effect from 00:01 on the next Business Day after the Business Day²⁰ 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.

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.”

¹¹ Or where a derogation has been applied for and been granted by the NRA.

¹² Or, if appropriate, range of values.

¹³ Or, if appropriate, range of values.

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.

¹⁵ Or, if appropriate, range of values.

¹⁶ As the Grid Code (Code) Administrator.

¹⁷ Or, if appropriate, range of values.

¹⁸ Or, if appropriate, range of values.

¹⁹ Or, if appropriate, range of values.

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

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 value²¹ concerned would also be placed on the transparent reporting template²² by the relevant organisation²³ (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 RfG²⁴) should be applied with respect to the Demand Connection Network Code.

Therefore, as with GC0107, the Ofgem Multiple TSO Allocation spreadsheet²⁵ 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 value²⁶ 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

²¹ Or, if appropriate, range of values.

²² We would suggest this be done within two Business Days of the publication of the

²³ Such as the Relevant ISO or Relevant System Operator.

²⁴ Regulation 2016/631

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>

²⁶ Or, where applicable, value range.

- (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)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 DNOs²⁸.

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:

- 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 applied²⁹, in coordination with and with the agreement of the new Demand party/parties – which we refer to as DCC specific value.

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

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.

²⁹ Or where a derogation has been applied for and been granted by the NRA.

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 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 value³¹ by Friday 7th December 2018 at the latest, although they would be free to do so prior to this date if they wished³².

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 value³³ they would provide to National Grid SO³⁴ their updated value³⁵ 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 value³⁶ would take effect from 00:01 on the next Business Day after the Business Day³⁷ 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

³⁰ Or, if appropriate, range of values.

³¹ Or, if appropriate, range of values.

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.

³³ Or, if appropriate, range of values.

³⁴ As the Grid Code (Code) Administrator.

³⁵ Or, if appropriate, range of values

³⁶ Or, if appropriate, range of values.

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

consider if these DCC specific value(s) should be published by party type (if appropriate) as per Article 3(1) (a)-(d)³⁸

Finally, for completeness, we would propose that where a derogation has been granted by Ofgem that the value³⁹ concerned would also be placed on the transparent reporting template⁴⁰ by the relevant organisation⁴¹ (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 convened 11 times to discuss the 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 and GC0113.

Summary of Proposer's original solution

The Proposer's original solution was:

- Creation of a spreadsheet⁴² 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).

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.

³⁹ .Or, if appropriate, range of values

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

⁴¹ Such as the Relevant TSO or Relevant System Operator

⁴² The original spreadsheet produced by the Proposer is set out in Annex 1

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 application⁴³, 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 Code Administrator Consultation. 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 or Demand Facilities, 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

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

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 spreadsheet⁴⁴ 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,

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

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 guidance⁴⁵ 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 GC0107 Solution

Two possible alternatives were discussed by the Workgroup. In summary, the first proposed alternative is the same as the Original except there would be no ongoing activity for Distribution Network Operators (unless G99 is formally modified in a way that affects the list of data items). The second proposed alternative would exclude distribution connected parties (those without a CUSC or other National Grid ESO bilateral contract) from the scope of the modification.

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 agreed that these were formal alternatives and would be known henceforth as GC0107 WAGCM1 and GC0107 WAGCM2 respectively.

Workgroup Alternatives to Original GC0113 Solution

Following the decision to run a Workgroup consultation for GC0113, the Workgroup noted that the same alternatives proposed for GC0107 would apply for GC0113. The Proposer of GC0107 WAGCM1 and GC0107 WAGCM2 raised two alternatives for GC0113. In summary, the first proposed alternative is the same as the Original except there would be no ongoing activity for Distribution Network Operators (unless G99 is formally modified in a way that affects the list of data items). The second proposed alternative would exclude distribution connected parties (those without a CUSC or other National Grid ESO bilateral contract) from the scope of the modification.

⁴⁵ https://www.ofgem.gov.uk/system/files/docs/2017/11/derogations_guidance_post-con.pdf

At the meeting on 9 October 2019, the Workgroup agreed that these were formal alternatives and will be known henceforth as GC0113 WAGCM1 and GC0113 WAGCM2 respectively.

5 Workgroup Consultation Summary – 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 Code Administrator Consultation), 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 is set out in Annex 6 of this Code Administrator Consultation.

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 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 Summary – GC0113

The Workgroup met on 27 November 2019 to discuss the 4 responses received from the Workgroup Consultation which ran from 1 November 2019 to 22 November 2019. Of the 4 responses received, 3 were from Workgroup members. The full responses can be located in Annex 7 of this Code Administrator Consultation but in summary:

- All 4 respondents did not believe that the Original and 2 WAGCMs better facilitated the Grid Code Objectives than the Baseline; however, all of the respondents were Network Operators who under this proposal will have additional process responsibilities and compliance risks which outweigh the benefits (which are also not clear in their opinion);
- A respondent asked if there were any impacts on the System Operator Transmission Owner Code (STC); however, as there are no proposed requirements for Transmission Owners, no changes will be required to the STC.
- 2 respondents also noted that a Distribution Code Modification would be required to clarify the obligations on iDNOs. Workgroup agreed that this would be raised as a consequential modification if the Authority approve either the GC0107 or GC0113 Original proposals;
- 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 Workgroup noted that the Original remains on an ongoing basis rather than annual); and
- 3 respondents believe that the new requirements should be incorporated within the Planning Code rather than in the Operating Code. Workgroup on balance agreed to leave the requirements in the Operating Code.

7 Workgroup Vote for both GC0107 and GC0113

The Workgroup believed that the Terms of Reference have been fulfilled and GC0107/GC0113 has been fully considered.

The Workgroup met on 27 November 2019 and voted separately for both GC0107 and GC0113 on:

- Whether the Original, WAGCM1 and WAGCM2 would better facilitate the Applicable Grid Code Objectives than the baseline;
- Whether WAGCM1 and WAGCM2 would better facilitate the Applicable Grid Code Objectives than the Original; and
- Which option was best overall?

GC0107 Workgroup Vote

- The Workgroup concluded by majority (4 out of 7 votes) that the Original better facilitated the Applicable Grid Code Objectives than the baseline; however, the Workgroup concluded by majority (4 out of 7 votes) that both WAGCM1 and WAGCM2 did not better facilitate the Applicable Grid Code Objectives than the baseline;
- The Workgroup concluded by majority that WAGCM1 better facilitated the Applicable Grid Code Objectives than the Original by 4 votes to 3; however, the Workgroup concluded by majority that WAGCM2 did not better facilitate the Applicable Grid Code Objectives than the Original; and
- 3 Workgroup Members voted that the Baseline was the best option, 2 votes were cast for the Original and 1 vote each was cast for WAGCM1 and WAGCM2.

Vote recording guidelines:

“Y” = Yes

“N” = No

“-“ = Neutral

Vote 1 – do the GC0107 Original, GC0107 WAGCM1, GC0107 WAGCM2 facilitate the objectives better than the Baseline?

| Workgroup Member | Better facilitates AGCO (i) | Better facilitates AGCO (ii)? | Better facilitates AGCO (iii)? | Better facilitates AGCO (iv)? | Better facilitates AGCO (v)? | Overall (Y/N) |
|---------------------------------------|-----------------------------|-------------------------------|--------------------------------|-------------------------------|------------------------------|---------------|
| Garth Graham - SSE Generation Limited | | | | | | |
| GC0107 Original | Y | Y | Y | Y | Y | Y |
| GC0107 WAGCM1 | Y | Y | Y | N | Y | N |

| | | | | | | |
|---|---|---|---|---|---|---|
| GC0107 WAGCM2 | Y | Y | Y | N | Y | N |
| <p>Voting Statement:</p> <p>Ensuring transparency of the connection conditions that are specified by the Relevant Network Operator(s), at transmission and distribution, in GB will allow generators seeking to connect in GB to have full awareness and visibility of the connect conditions that are specified, and thus applied, by the network operator.</p> <p>It also ensures (in the case of the Original proposal – but <u>not</u> in the case of WAGCM1 or WAGCM2) that the Relevant Network Operator(s) is complying with Article 1 and Article 7 (3) (b) of RfG.</p> <p>Article 1</p> <p><i>“This regulation also lays down the obligations for ensuring that system operators make appropriate use of the power generating facilities’ capabilities in a transparent and non-discriminatory manner to provide a level playing field throughout the Union.”</i></p> <p>Article 7 (3) (b)</p> <p><i>“When applying this Regulation, Member States, competent entities and system operators shall:..... (b) ensure transparency;”</i></p> <p>As such this will, primarily, better facilitate competition (and thus be good for objective (ii) and (iii)) and (in the case of the Original, but <u>not</u> in the case of WAGCM1 or WAGCM2) efficiently discharge the obligations imposed by European Law; specifically RfG, as well as the other EU Network Codes, such as, SOGL; on Relevant Network Operator(s), at transmission and distribution, in GB (and thus be good for objective (iv)).</p> <p>In addition, ensuring transparency will better facilitate the development, maintenance and operation of an efficient, coordinated and economical system for the transmission of electricity (and thus be good for objective (i)) whilst the proposed publication route will promote the efficiency and administration of the Grid Code (and thus be good for objective (v)).</p> <p>In overall terms the Original proposal is better; whilst WAGCM1 and WAGCM 2, as they don’t ensure compliance by the Relevant Network Operator(s) in terms of obligations imposed on them by EU law (specifically with Article 1 and Article 7 (3) (b) of RfG) are not better.</p> | | | | | | |
| Rob Wilson - National Grid ESO | | | | | | |
| GC0107 Original | - | - | - | N | N | N |
| GC0107 WAGCM1 | - | - | - | N | N | N |
| GC0107 WAGCM2 | - | - | - | N | N | N |
| Voting Statement: | | | | | | |

Having analysed mapping of the RfG and DCC codes there are very limited opportunities to make settings on a bilateral basis, all of which seem to relate only to local conditions at the connection site. ENTSO-E have a continuing requirement to monitor implementation of the European Connection Network Codes (RfG, DCC, HVDC) which they fulfil in part through a spreadsheet of settings and values that is completed by all TSOs and presented to the Grid Connection European Stakeholder Committee. This information could have considerable value to manufacturers and developers but it is difficult to see what additional purpose is served by GC0107/113. In the absence of any further information being provided by stakeholders in terms of what settings they have experienced being made on a bilateral basis or what they would do with such information we therefore support the baseline in avoiding creating an overhead which has no clear benefit.

Mike Kay – P2 Analysis

| | | | | | | |
|-----------------|---|---|---|---|---|---|
| GC0107 Original | - | - | - | N | N | N |
| GC0107 WAGCM1 | - | - | - | N | N | N |
| GC0107 WAGCM2 | - | - | - | N | N | N |

Voting Statement:

When the modification was raised there was much less information available to stakeholders in GB than there is now the RfG and the DCC has been incorporated into the Grid and Distribution Codes – so this removes one of the key drivers for this modification. Also, although I can see that in theory this adds transparency, in practice there is probably likely to be very limited differentiation in approaches between customers and installations, and certainly for any reason other than local requirements that will not translate into general applicability. The monitoring and publishing is an overhead that will not be justified by the amount of information, and any value that might theoretically flow from it, that will be actually within the scope of the modification.

Paul Crolla/Isaac Gutierrez - Scottish Power Renewables

| | | | | | | |
|-----------------|---|---|---|---|---|---|
| GC0107 Original | Y | - | - | - | - | Y |
| GC0107 WAGCM1 | Y | - | - | - | - | Y |
| GC0107 WAGCM2 | Y | - | - | - | - | Y |

Voting Statement:

Any increase in industry transparency is to be welcome. The modification seeks to address an issue that has been mostly resolved by the incorporation of RfG/DCC/HVDC network codes into the GB Grid Code, however it does mean that in the rare event that variables are agreed bilaterally which are different to the Grid Code and are not required to be subject to the derogation process then these should be notified to the industry. It is my opinion that distribution connected projects are highly unlikely to have any changes without seeking a derogation and in any case such notifications should be processed through a distribution code requirement rather than a grid code requirement hence why I believe WAGCM2 is most in-line with satisfying identified requirements.

Alan Creighton - Northern Powergrid

| | | | | | | |
|--------------------|---|---|---|---|---|---|
| GC0107 Original | - | - | - | N | N | N |
| GC0107 WAGCM1 | - | - | - | N | N | N |
| GC0107 WAGCM2 | - | - | - | N | N | N |

Voting Statement:

The mapping exercise carried out by the working group has demonstrated that in practice (i) the vast majority of the settings and requirements with which stakeholders need to comply are already available in public documents and (ii) any variations from these are rare and very site specific. Consequently, increased transparency of these settings and requirements is not necessary and will result in additional costs for network operators and NGENSO without any associated benefits to stakeholders.

Tim Ellingham / Liqiu Han – RWE Generation UK

| | | | | | | |
|--------------------|---|---|---|---|---|---|
| GC0107 Original | Y | - | - | - | - | Y |
| GC0107 WAGCM1 | Y | - | - | - | - | Y |
| GC0107 WAGCM2 | Y | - | - | - | - | Y |

Voting Statement:

Any requirements different from the generic values stated in the Grid Code (RfG/DCC) would be site specific and defined in (bilateral) connection agreement. Although these specific values cannot be used as reference for other parties and manufactures, GC 0107/0113 would increase the transparency of the implementation of RfG and DCC in

| | | | | | | |
|--|---|---|---|---|---|---|
| GB and give the Grid Code users a rough idea of system requirements in different regions of distribution networks. | | | | | | |
| Paul Youngman / Joshua Logan – Drax Power Ltd. | | | | | | |
| GC0107 Original | Y | Y | Y | Y | Y | Y |
| GC0107 WAGCM1 | Y | - | Y | N | Y | Y |
| GC0107 WAGCM2 | Y | - | Y | N | Y | Y |
| <p>Voting Statement:</p> <p>This proposal improves the transparency of information to all industry participants. In doing so the following benefits against the relevant objectives</p> <ul style="list-style-type: none"> (i) All proposals enable network operators to increase transparency and better maintain efficient network by providing users of their networks with more information. In our view it is better that the process to publish is a BAU activity and update occur when site or network parameters are updated. (ii) By improving transparency there should be beneficial impacts on competition by making information available to industry parties it would be reasonable to expect that there will be clear and common understanding of the parameters with any non-standard arrangements being visible to all current and future connectees. (iii) As well as improving competition there should be similar effects on security of supply and the general efficiency of the energy system. (iv) The original proposal ensures that licensee’s are compliant with the relevant EU regulations (v) The arrangements proposed by the original will enable a clear process to be established that can be updated in an efficient manner. <p>As highlighted our preference is for the original proposal due to the fully compliant and timely nature of the obligations to update changes.</p> | | | | | | |

Vote 2– where one or more WAGCMs exist, does each WAGCM better facilitates the objectives than the Original Modification Proposal?

| Workgroup Member | GC0107 WAGCM1 better than GC0107 Original Yes/No | GC0107 WAGCM2 better than GC0107 Original Yes/No |
|------------------|--|--|
| Garth Graham | No | No |
| Rob Wilson | Yes | Yes |

| | | |
|------------------------------|-----|-----|
| Mike Kay | Yes | Yes |
| Paul Crolla/Isaac Gutierrez | Yes | Yes |
| Alan Creighton | Yes | Yes |
| Tim Ellingham / Liqiu Han | Yes | No |
| Paul Youngman / Joshua Logan | No | No |

Vote 3– Which option is the best? (Baseline, Proposer solution (GC0107 Original Proposal) or GC0107 WAGCM1 or GC0107 WAGCM2

| Workgroup Member | BEST Option? |
|------------------------------|--------------|
| Garth Graham | Original |
| Rob Wilson | Baseline |
| Mike Kay | Baseline |
| Paul Crolla/Isaac Gutierrez | WAGCM2 |
| Alan Creighton | Baseline |
| Tim Ellingham / Liqiu Han | WAGCM1 |
| Paul Youngman / Joshua Logan | Original |

GC0113 Workgroup Vote

- The Workgroup concluded by majority (4 out of 7 votes) that the Original better facilitated the Applicable Grid Code Objectives than the baseline; however, the Workgroup concluded by majority (4 out of 7 votes) that both WAGCM1 and WAGCM2 did not better facilitate the Applicable Grid Code Objectives than the baseline;
- The Workgroup concluded by majority that WAGCM1 better facilitated the Applicable Grid Code Objectives than the Original by 4 votes to 3; however, the Workgroup concluded by majority that WAGCM2 did not better facilitate the Applicable Grid Code Objectives than the Original; and
- 3 Workgroup Members voted that the Baseline was the best option, 2 votes were cast for the Original and 1 vote each was cast for WAGCM1 and WAGCM2.

Vote recording guidelines:

“Y” = Yes

“N” = No

“-“ = Neutral

Vote 1 – do the GC0113 Original, GC0113 WAGCM1, GC0113 WAGCM2 facilitate the objectives better than the Baseline?

| Workgroup Member | Better facilitates AGCO (i) | Better facilitates AGCO (ii)? | Better facilitates AGCO (iii)? | Better facilitates AGCO (iv)? | Better facilitates AGCO (v)? | Overall (Y/N) |
|---------------------------------------|-----------------------------|-------------------------------|--------------------------------|-------------------------------|------------------------------|---------------|
| Garth Graham - SSE Generation Limited | | | | | | |
| GC0113 Original | Y | Y | Y | Y | Y | Y |
| GC0113 WAGCM1 | Y | Y | Y | N | Y | N |
| GC0113 WAGCM2 | Y | Y | Y | N | Y | N |

Voting Statement:

Ensuring transparency of the connection conditions that are specified by the Relevant Network Operator(s), at transmission and distribution, in GB will allow those parties that, according to DCC Article 3, are seeking to connect in GB to have full awareness and visibility of the connect conditions that are specified, and thus applied, by the network operator.

It also ensures (in the case of the Original proposal – but not in the case of WAGCM1 or WAGCM2) that the Relevant Network Operator(s) is complying with Article 1 (3) and Article 6 (3) (b) of DCC.

Article 1 (3)

“This Regulation also lays down the obligations for ensuring that system operators make appropriate use of the demand facilities’ and distribution systems’ capabilities in a transparent and non-discriminatory manner to provide a level playing field throughout the Union.”

Article 6 (3) (b)

“When applying this Regulation, Member States, competent entities and system operators shall:..... (b) ensure transparency;”

As such this will, primarily, better facilitate competition (and thus be good for objective (ii) and (iii)) and (in the case of the Original, but not in the case of WAGCM1 or WAGCM2) efficiently discharge the obligations imposed by European Law; specifically

DCC, as well as the other EU Network Codes, such as, SOGL; on Relevant Network Operator(s), at transmission and distribution, in GB (and thus be good for objective (iv)).

In addition, ensuring transparency will better facilitate the development, maintenance and operation of an efficient, coordinated and economical system for the transmission of electricity (and thus be good for objective (i)) whilst the proposed publication route will promote the efficiency and administration of the Grid Code (and thus be good for objective (v)).

In overall terms the Original proposal is better; whilst WAGCM1 and WAGCM 2, as they don't ensure compliance by the Relevant Network Operator(s) in terms of obligations imposed on them by EU law (specifically with Article 1 (3) and Article 6 (3) (b) of DCC) are not better.

Rob Wilson - National Grid ESO

| | | | | | | |
|--------------------|---|---|---|---|---|---|
| GC0113 Original | - | - | - | N | N | N |
| GC0113 WAGCM1 | - | - | - | N | N | N |
| GC0113 WAGCM2 | - | - | - | N | N | N |

Voting Statement:

Having analysed mapping of the RfG and DCC codes there are very limited opportunities to make settings on a bilateral basis, all of which seem to relate only to local conditions at the connection site. ENTSO-E have a continuing requirement to monitor implementation of the European Connection Network Codes (RfG, DCC, HVDC) which they fulfil in part through a spreadsheet of settings and values that is completed by all TSOs and presented to the Grid Connection European Stakeholder Committee. This information could have considerable value to manufacturers and developers but it is difficult to see what additional purpose is served by GC0107/113. In the absence of any further information being provided by stakeholders in terms of what settings they have experienced being made on a bilateral basis or what they would do with such information we therefore support the baseline in avoiding creating an overhead which has no clear benefit.

Mike Kay – P2 Analysis

| | | | | | | |
|--------------------|---|---|---|---|---|---|
| GC0113 Original | - | - | - | N | N | N |
| GC0113 WAGCM1 | - | - | - | N | N | N |

| | | | | | | |
|--|---|---|---|---|---|---|
| GC0113 WAGCM2 | - | - | - | N | N | N |
| <p>Voting Statement:</p> <p>When the modification was raised there was much less information available to stakeholders in GB than there is now the RfG and the DCC has been incorporated into the Grid and Distribution Codes – so this removes one of the key drivers for this modification. Also, although I can see that in theory this adds transparency, in practice there is probably likely to be very limited differentiation in approaches between customers and installations, and certainly for any reason other than local requirements that will not translate into general applicability. The monitoring and publishing is an overhead that will not be justified by the amount of information, and any value that might theoretically flow from it, that will be actually within the scope of the modification.</p> | | | | | | |
| Paul Crolla/Isaac Gutierrez - Scottish Power Renewables | | | | | | |
| GC0113 Original | Y | - | - | - | - | Y |
| GC0113 WAGCM1 | Y | - | - | - | - | Y |
| GC0113 WAGCM2 | Y | - | - | - | - | Y |
| <p>Voting Statement:</p> <p>Any increase in industry transparency is to be welcome. The modification seeks to address an issue that has been mostly resolved by the incorporation of RfG/DCC/HVDC network codes into the GB Grid Code, however it does mean that in the rare event that variables are agreed bilaterally which are different to the Grid Code and are not required to be subject to the derogation process then these should be notified to the industry. It is my opinion that distribution connected projects are highly unlikely to have any changes without seeking a derogation and in any case such notifications should be processed through a distribution code requirement rather than a grid code requirement hence why I believe WAGCM2 is most in-line with satisfying identified requirements.</p> | | | | | | |
| Alan Creighton - Northern Powergrid | | | | | | |
| GC0113 Original | - | - | - | N | N | N |
| GC0113 WAGCM1 | - | - | - | N | N | N |
| GC0113 | - | - | - | N | N | N |

| | | | | | | |
|--|---|---|---|---|---|---|
| WAGCM2 | | | | | | |
| <p>Voting Statement:</p> <p>The mapping exercise carried out by the working group has demonstrated that in practice (i) the vast majority of the settings and requirements with which stakeholders need to comply are already available in public documents and (ii) any variations from these are rare and very site specific. Consequently, increased transparency of these settings and requirements is not necessary and will result in additional costs for network operators and NGENSO without any associated benefits to stakeholders.</p> | | | | | | |
| Tim Ellingham / Liqiu Han – RWE Generation UK | | | | | | |
| GC0113 Original | Y | - | - | - | - | Y |
| GC0113 WAGCM1 | Y | - | - | - | - | Y |
| GC0113 WAGCM2 | Y | - | - | - | - | Y |
| <p>Voting Statement:</p> <p>Any requirements different from the generic values stated in the Grid Code (RfG/DCC) would be site specific and defined in (bilateral) connection agreement. Although these specific values cannot be used as reference for other parties and manufactures, GC 0107/0113 would increase the transparency of the implementation of RfG and DCC in GB and give the Grid Code users a rough idea of system requirements in different regions of distribution networks.</p> | | | | | | |
| Paul Youngman / Joshua Logan – Drax Power Ltd. | | | | | | |
| GC0113 Original | Y | Y | Y | Y | Y | Y |
| GC0113 WAGCM1 | Y | - | Y | N | Y | Y |
| GC0113 WAGCM2 | Y | - | Y | N | Y | Y |
| <p>Voting Statement:</p> <p>This proposal improves the transparency of information to all industry participants. In doing so the following benefits against the relevant objectives</p> <p>(i) All proposals enable network operators to increase transparency and better maintain efficient network by providing users of their networks with more</p> | | | | | | |

information. In our view it is better that the process to publish is a BAU activity and update occur when site or network parameters are updated.

- (ii) By improving transparency there should be beneficial impacts on competition by making information available to industry parties it would be reasonable to expect that there will be clear and common understanding of the parameters with any non-standard arrangements being visible to all current and future connectees.
- (iii) As well as improving competition there should be similar effects on security of supply and the general efficiency of the energy system.
- (iv) The original proposal ensures that licensee’s are compliant with the relevant EU regulations
- (v) The arrangements proposed by the original will enable a clear process to be established that can be updated in an efficient manner.

As highlighted our preference is for the original proposal due to the fully compliant and timely nature of the obligations to update changes.

Vote 2– where one or more WAGCMs exist, does each WAGCM better facilitates the objectives than the Original Modification Proposal?

| Workgroup Member | GC0113 WAGCM1 better than GC0113 Original Yes/No | GC0113 WAGCM2 better than GC0113 Original Yes/No |
|------------------------------|--|--|
| Garth Graham | No | No |
| Rob Wilson | Yes | Yes |
| Mike Kay | Yes | Yes |
| Paul Crolla/Isaac Gutierrez | Yes | Yes |
| Alan Creighton | Yes | Yes |
| Tim Ellingham / Liqiu Han | Yes | No |
| Paul Youngman / Joshua Logan | No | No |

Vote 3– Which option is the best? (Baseline, Proposer solution (GC0113 Original Proposal) or GC0113 WAGCM1 or GC0113 WAGCM2

| Workgroup Member | BEST Option? |
|------------------------------|--------------|
| Garth Graham | Original |
| Rob Wilson | Baseline |
| Mike Kay | Baseline |
| Paul Crolla/Isaac Gutierrez | WAGCM2 |
| Alan Creighton | Baseline |
| Tim Ellingham / Liqiu Han | WAGCM1 |
| Paul Youngman / Joshua Logan | Original |

8 Proposer view on relevant Objectives**GC0107****Impact of the modification on the Applicable Grid Code Objectives:**

| Relevant Objective | Identified impact |
|--|---|
| (a) To permit the development, maintenance and operation of an efficient, coordinated and economical system for the transmission of electricity | Positive (The proposed solution will allow the ESO / Distribution Network Operators to efficiently apply the EU Network Code/ Guidelines requirements to the Users of the system through the National Industry Codes) |
| (b) Facilitating effective competition in the generation and supply of electricity (and without limiting the foregoing, to facilitate the national electricity transmission system being made available to persons authorised to supply or generate electricity on terms which neither prevent nor restrict competition in the supply or generation of electricity); | Positive (The proposed solution will assist the Users of the Transmission and the Distribution system during the connection process) |
| (c) Subject to sub-paragraphs (i) and (ii), to promote the security and efficiency of the electricity | Positive (The publication of a harmonised set of values or, |

| | |
|--|--|
| <p>generation, transmission and distribution systems in the national electricity transmission system operator area taken as a whole;</p> | <p>where permitted by the RfG, of a power-generating facility site specific value will promote the security and, in particular, the efficiency of generation)</p> |
| <p>(d) To efficiently discharge the obligations imposed upon the licensee by this license and to comply with the Electricity Regulation and any relevant legally binding decisions of the European Commission and/or the Agency; and</p> | <p>Positive (The EU Connection Codes derive from the Third Energy Package legislation which is focused on delivering security of supply; supporting the connection of new renewable plant; and increasing competition to lower end consumer costs. This proposal ensures openness and transparency around the technical values needed by new generators seeking to connect in GB. Without full visibility of the value (or range of values, if applicable) these new generators will be impeded when they are ordering new equipment. The manufactures will also be hindered in the use of 'equipment certificates' if the harmonised value(s) is kept secret by the network operator(s). As has been recognised within the RfG, the use of 'equipment certificates' will significantly reduce the need (and substantially reduce the cost for new generators and network operators) for each individual new generator in terms of compliance testing – which leads to lower costs to end consumers, thus maximising social welfare (which is conformance with the Electricity Regulation). Furthermore, this modification ensures GB compliance with EU legislation in a timely manner and does so in a way that is not more stringent than EU law permits)</p> |

| | |
|--|---|
| (e) To promote efficiency in the implementation and administration of the Grid Code arrangements | Positive (The publication in a single location of the GB applicable RfG values (or range of values, if applicable) will avoid the need (i) for this to be done by each of the parties concerned (1 SO, 3 onshore TOs, numerous OFTOs, 14 DNOs plus possibly countless CATOs in the future) and (ii) for users to have to find this important information, at differing locations within numerous websites (for each of the parties noted under (i)). Therefore, this proposal will promote the efficiency in the implementation and administration of the Grid Code arrangements. |
|--|---|

GC0113**Impact of the modification on the Applicable Grid Code Objectives:**

| Relevant Objective | Identified impact |
|--|---|
| (a) To permit the development, maintenance and operation of an efficient, coordinated and economical system for the transmission of electricity | Positive (The proposed solution will allow the ESO / Distribution Network Operators to efficiently apply the EU Network Code/ Guidelines requirements to the Users of the system through the National Industry Codes) |
| (b) Facilitating effective competition in the generation and supply of electricity (and without limiting the foregoing, to facilitate the national electricity transmission system being made available to persons authorised to supply or generate electricity on terms which neither prevent nor restrict competition in the supply or generation of electricity); | Positive (The proposed solution will assist the Users of the Transmission and the Distribution system during the connection process) |
| (c) Subject to sub-paragraphs (i) and (ii), to promote the security and efficiency of the electricity generation, transmission and distribution systems in the national electricity transmission system operator area taken as a whole; | Positive (The publication of a harmonised set of values or, where permitted by the DCC, of a specific value(s) will promote the security and the efficiency of |

| | |
|--|--|
| | <p>transmission and distribution systems.</p> |
| <p>(d) To efficiently discharge the obligations imposed upon the licensee by this license and to comply with the Electricity Regulation and any relevant legally binding decisions of the European Commission and/or the Agency; and</p> | <p>Positive (The EU Connection Codes derive from the Third Energy Package legislation which is focused on delivering security of supply; supporting the connection of new Demand; and increasing competition to lower end consumer costs.</p> <p>This proposal ensures openness and transparency around the technical values needed by new Demand parties seeking to connect in GB. Without full visibility of the value (or range of values, if applicable) these new Demand parties will be impeded when they are ordering new equipment or seeking to connect.</p> <p>The manufacturers will also be hindered in the use of ‘equipment certificates’ if the harmonised value(s) is kept secret by the network operator(s). As has been recognised within the DCC, the use of ‘equipment certificates’ will significantly reduce the need (and substantially reduce the cost for new Demand parties and network operators) for each individual new connection in terms of testing – which leads to lower costs to end consumers, thus maximising social welfare (which is conformance with the Electricity Regulation)</p> <p>Furthermore, this modification ensures GB compliance with EU legislation in a timely manner and does so in a way that is not more stringent than EU law permits)</p> |

| | |
|---|--|
| <p>(e) To promote efficiency in the implementation and administration of the Grid Code arrangements</p> | <p>Positive (The publication in a single location of the GB applicable RfG values (or range of values, if applicable) will avoid the need (i) for this to be done by each of the parties concerned (1 SO, 3 onshore TOs, numerous OFTOs, 14 DNOs plus possibly countless CATOs in the future) and (ii) for users to have to find this important information, at differing locations within numerous websites (for each of the parties noted under (i)). Therefore, this proposal will promote the efficiency in the implementation and administration of the Grid Code arrangements.</p> |
|---|--|

9 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.

- In the event that this Modification is approved by the Authority, the Workgroup noted that a consequential Distribution Code modification would be required to obligate iDNOs to provide the necessary data to DNOs.
- Although GC0107 and GC0113 were progressed together, GC0107 and GC0113 should be considered on their merits separately. The Authority could decide to approve none of, both of, or one of GC0107 (Original, WAGCM1 or WAGCM2) and GC0113 (Original, WAGCM1 or WAGCM2).

10 Code Administrator Consultation Response Summary

The GC0107/GC0113 Code Administrator Consultation was issued for 15 working days on 14 February 2020 and closed on 6 March 2020. 6 responses were received in response to the Code Administrator Consultation with 4 of these from the ESO or Network Operators and 2 of these from Generators. The full responses can be located in Annex 11 of this Code Administrator Consultation but in summary:

- All 4 of the ESO or Network Operator respondents did not believe that the Original and 2 WAGCMs better facilitated the Grid Code Objectives than the Baseline. The main points articulated were:
 - The vast majority of settings and requirements that stakeholders need to comply with are already available in public documents and any variations from these are rare and very site specific; and
 - The respondents stated they will have additional process responsibilities and compliance risks which outweigh the benefits (which are also not clear in their opinion).
- However, both the Generator respondents (including the Proposer) were supportive of the Original Proposal. They welcomed the transparency and 1 respondent argued that this was particularly important given the increase in embedded generation.

11 Panel Views

At the Grid Code Review Panel meeting on 26 March 2020, the Panel voted on GC0107 and GC0113 against the Applicable Grid Code Objectives.

At the Grid Code Review Panel meeting on 26 March 2020, the Panel voted on whether the Original Proposal, WAGCM1 or WAGCM2 for both GC0107 and GC0113 better facilitated the Grid Code objectives. The Panel recommended that no change is made to the Grid Code for both GC0107 and GC0113. Four Panel members voted that the Original was the best option and five members voted that the baseline was the best option. All Panel members who voted stated that their votes applied to both GC0107 and GC0113.

For reference the Applicable Grid Code Objectives are:

- (a) *To permit the development, maintenance and operation of an efficient, coordinated and economical system for the transmission of electricity*
- (b) *Facilitating effective competition in the generation and supply of electricity (and without limiting the foregoing, to facilitate the national electricity transmission system being made available to persons authorised to supply or generate electricity on terms which neither prevent nor restrict competition in the supply or generation of electricity);*
- (c) *Subject to sub-paragraphs (i) and (ii), to promote the security and efficiency of the electricity generation, transmission and distribution systems in the national electricity transmission system operator area taken as a whole;*
- (d) *To efficiently discharge the obligations imposed upon the licensee by this license and to comply with the Electricity Regulation and any relevant legally binding decisions of the European Commission and/or the Agency; and*
- (e) *To promote efficiency in the implementation and administration of the Grid Code arrangements.*

Vote recording guidelines:

“Y” = Yes

“N” = No

“-“ = Neutral

Vote 1: Do the Original, WAGCM1 and WAGCM2 facilitate the objectives better than the Baseline?

Panel Member: Alan Creighton

| | Better facilitates ACO (a) | Better facilitates ACO (b)? | Better facilitates ACO (c)? | Better facilitates ACO (d)? | Better facilitates ACO (e)? | Overall (Y/N) |
|----------|----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|---------------|
| Original | - | - | - | N | N | N |
| WAGCM1 | - | - | - | N | N | N |
| WAGCM2 | - | - | - | N | N | N |

Voting Statement

The mapping exercise carried out by the working group has demonstrated that in practice (i) the vast majority of the settings and requirements with which stakeholders need to comply are already available in public documents and (ii) any variations from these are rare and very site specific. Consequently, increased transparency of these settings and requirements is not necessary and will result in additional costs for network operators and NGESO without any associated benefits to stakeholders.

Panel Member: Alastair Frew

| | Better facilitates ACO (a) | Better facilitates ACO (b)? | Better facilitates ACO (c)? | Better facilitates ACO (d)? | Better facilitates ACO (e)? | Overall (Y/N) |
|---|----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|---------------|
| Original | Y | Y | Y | - | - | Y |
| WAGCM1 | Y | Y | Y | - | - | Y |
| WAGCM2 | Y | Y | Y | - | - | Y |
| Voting Statement | | | | | | |
| <p>This increases transparency for all Users and ensures there is equitable treatment of all Users by highlighting anomalies which might be occurring in private hidden bilateral agreements.</p> <p>The original is best as it is the only proposal which ensure complete transparency, both the WAGCMs include data restrictions.</p> | | | | | | |

Panel Member: Christopher Smith

| | Better facilitates ACO (a) | Better facilitates ACO (b)? | Better facilitates ACO (c)? | Better facilitates ACO (d)? | Better facilitates ACO (e)? | Overall (Y/N) |
|---|----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|---------------|
| Original | Y | Y | Y | - | - | Y |
| WAGCM1 | Y | Y | Y | - | - | Y |
| WAGCM2 | Y | Y | Y | - | - | Y |
| Voting Statement | | | | | | |
| Ensures transparency for all connection agreements. | | | | | | |

Panel Member: Damian Jackman

| | Better facilitates ACO (a) | Better facilitates ACO (b)? | Better facilitates ACO (c)? | Better facilitates ACO (d)? | Better facilitates ACO (e)? | Overall (Y/N) |
|----------|----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|---------------|
| Original | Y | - | - | Y | Y | Y |
| WAGCM1 | Y | - | - | Y | Y | Y |

| | | | | | | |
|---|---|---|---|---|---|---|
| WAGCM2 | Y | - | - | Y | Y | Y |
| Voting Statement | | | | | | |
| The proposal improves transparency by highlighting where there are differences between connections as is required in RfG Article 7 (3) b and give generators assurance that they are being treated equally. It also provides a means for the regulated organisations to demonstrate that they are acting in a non-discriminatory manner where there is latitude in applying a particular setting. | | | | | | |

Panel Member: Guy Nicholson

| | Better facilitates ACO (a) | Better facilitates ACO (b)? | Better facilitates ACO (c)? | Better facilitates ACO (d)? | Better facilitates ACO (e)? | Overall (Y/N) |
|--|----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|---------------|
| Original | Y | - | - | - | Y | Y |
| WAGCM1 | Y | - | - | - | Y | Y |
| WAGCM2 | Y | - | - | - | Y | Y |
| Voting Statement | | | | | | |
| I have followed the views of generator representatives on the Workgroup who have been involved in the details of the proposal. | | | | | | |

Panel Member: Joe Underwood

| | Better facilitates ACO (a) | Better facilitates ACO (b)? | Better facilitates ACO (c)? | Better facilitates ACO (d)? | Better facilitates ACO (e)? | Overall (Y/N) |
|--|----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|---------------|
| Original | Y | - | - | - | - | Y |
| WAGCM1 | Y | - | - | - | - | Y |
| WAGCM2 | Y | - | - | - | - | Y |
| Voting Statement | | | | | | |
| The modification increases transparency and allows users of the network some visibility of the system requirements. This will also allow those looking to connect a better picture of the network at the area they are intending to connect. | | | | | | |

Panel Member: Robert Longden

| | Better facilitates ACO (a) | Better facilitates ACO (b)? | Better facilitates ACO (c)? | Better facilitates ACO (d)? | Better facilitates ACO (e)? | Overall (Y/N) |
|---|----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|---------------|
| Original | - | - | - | N | N | N |
| WAGCM1 | - | - | - | N | N | N |
| WAGCM2 | - | - | - | N | N | N |
| Voting Statement | | | | | | |
| <p>Modification proposals are intended to address defects and/or improve the functioning of the Grid Code and its processes. It is difficult to determine what the defect is that this proposal seeks to rectify, as the majority of the proposed information is already available. If applied there will be additional costs and process required. There is insufficient firm evidence that this will provide a benefit.</p> | | | | | | |

Panel Member: Rob Wilson

| | Better facilitates ACO (a) | Better facilitates ACO (b)? | Better facilitates ACO (c)? | Better facilitates ACO (d)? | Better facilitates ACO (e)? | Overall (Y/N) |
|--|----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|---------------|
| Original | - | - | - | - | N | N |
| WAGCM1 | - | - | - | - | N | N |
| WAGCM2 | - | - | - | - | N | N |
| Voting Statement | | | | | | |
| <p>This proposal along with GC0113 comes in two parts:</p> <ul style="list-style-type: none"> • Firstly, to record the settings made during the initial implementation of RfG and DCC as were approved by Ofgem. This is unnecessary. As highlighted in the workgroup, an implementation monitoring spreadsheet developed by ENTSO-E already does this but is of considerably more value as it includes the settings made across all member states. • Secondly, to record those values that are set subsequently on a bilateral basis. It appears that this part of the proposal is based on a misunderstanding that values can be set bilaterally. As has been explored in the workgroup, the vast majority of settings, other than those of genuinely only local site-specific interest, were set once during GB implementation of RfG and DCC as approved by Ofgem. If different values were to be applied this could only be done by seeking a derogation from Ofgem. <p>No benefit has been demonstrated as part of this proposal which therefore applies an administrative burden to network operators – and ultimately a cost to consumers - without any rationale.</p> | | | | | | |

Panel Member: Richard Woodward (Alternate to Ross McGhin)

| | Better facilitates ACO (a) | Better facilitates ACO (b)? | Better facilitates ACO (c)? | Better facilitates ACO (d)? | Better facilitates ACO (e)? | Overall (Y/N) |
|---|----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|---------------|
| Original | - | - | - | N | N | N |
| WAGCM1 | - | - | - | N | N | N |
| WAGCM2 | - | - | - | N | N | N |
| Voting Statement | | | | | | |
| <p>There is minimal evidence presented in the Final Modification Report that the proposed change addresses a tangible defect, nor presents a benefit sufficient to justify the increase in industry resources needed to implement/operate it on an enduring basis.</p> <p>Whilst we welcome efforts to increase transparency in Grid Code arrangements, the focus of this modification appears to be directed to communicating bespoke, local, user-specific parameters. The final report does not adequately explain how publication of this would have any wider benefit for other industry parties connecting elsewhere in GB.</p> <p>In the rare event that a user requires to agree site-specific parameters, we believe that it is reasonable for this to occur bilaterally - as long as this falls within the compliance parameters specified by EU regulations and/or the GB code frameworks.</p> | | | | | | |

Panel Member: Graeme Vincent (Alternate to Steve Cox)

| | Better facilitates ACO (a) | Better facilitates ACO (b)? | Better facilitates ACO (c)? | Better facilitates ACO (d)? | Better facilitates ACO (e)? | Overall (Y/N) |
|---|----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|---------------|
| Original | - | - | - | N | N | N |
| WAGCM1 | - | - | - | N | N | N |
| WAGCM2 | - | - | - | N | N | N |
| Voting Statement | | | | | | |
| <p>From the Final Modification Report it is difficult to determine what the actual defect the modification it is trying to resolve, nor does it clearly articulate the benefits which will arise to Users from the provision of this data. Most of the settings and requirements appear from the mapping exercise to be available, whilst those which aren't would seem to be more site specific in nature.</p> | | | | | | |

There is little justification to demonstrate that the benefits for introducing this modification outweigh the increased costs to network operators, owners and the ESO for operating and maintaining the necessary reporting mechanism(s).

Vote 2 – Which option is the best?

| Panel Member | BEST Option? |
|--|--------------|
| Alan Creighton | Baseline |
| Alastair Frew | Original |
| Christopher Smith | Original |
| Damian Jackman | Original |
| Guy Nicholson | Abstained |
| Joe Underwood | Original |
| Rob Wilson | Baseline |
| Robert Longden | Baseline |
| Richard Woodward (Alternate to Ross McGhin) | Baseline |
| Graeme Vincent (Alternate to Steve Cox) | Baseline |

12 Legal Text

The Workgroup agreed legal text for the following:

GC0107 Original;
 GC0107 WAGCM1;
 GC0107 WAGCM2;
 GC0113 Original;
 GC0113 WAGCM1; and
 GC0113 WAGCM2.

The purpose of these combinations is to allow Ofgem the flexibility, if they so wish, to approve both the GC0107 and GC0113 solutions, one of GC0107 or GC0113 or neither of these solutions. This legal text is set out in full in Annex 10 of this Code Administrator Consultation.

13 Impacts

| Code administration costs | |
|--------------------------------|---|
| Resource costs | £9,075 - 10 Workgroup meetings £468 - Catering |
| Total Code Administrator costs | £9,543 |

| Industry costs | |
|----------------------|---|
| Resource costs | £72,600 - 10 Workgroup meetings £13,613 – 3 Consultations <ul style="list-style-type: none"> • 10 Workgroup meetings • 8 Workgroup members • 1.5 man days' effort per meeting • 1.5 man days' effort per consultation response • 5 average number of consultation respondents |
| Total Industry Costs | £86,213 |

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.

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 | 27/11/19 |
|--------------------------|---|------------------------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| Garth Graham | SSE Generation Ltd. | Proposer | A | 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 | X |
| Rob Wilson | National Grid Electricity System Operator | NGESO Representative Alternate | A | X | X | A | A | A | A | A | A | A |
| Mike Kay | P2Anaylsis | Workgroup member | A | A | A | A | A | A | A | A | A | A |
| Liqiu Han | RWE Generation UK | Workgroup member | AO | A | X | X | A | A | X | X | X | A |
| Paul Youngman | Drax Power Ltd | Workgroup member | X | A | A | A | A | X | A | X | A | A |
| Joshua Logan | Drax Power Ltd | Alternate Member for Paul Youngman | X | X | X | X | X | X | X | A | X | X |

| | | | | | | | | | | | | |
|-------------------|--------------------------|--------------------------------------|---|---|---|---|---|---|---|---|---|---|
| Paul Crolla | ScottishPower Renewables | Alternate Member for Isaac Gutierrez | X | A | X | A | X | A | X | A | A | A |
| Isaac Gutierrez | ScottishPower Renewables | Workgroup member | A | X | X | X | X | X | X | X | X | X |
| Tim Ellingham | RWE Generation UK | Workgroup member | A | X | X | A | X | X | X | X | X | X |
| Gregory Middleton | Deep Sea Plc | Workgroup member | A | A | A | X | X | X | X | X | X | A |
| Alan Creighton | Northern Power Grid | Workgroup member | A | X | A | 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: Workgroup Consultation Responses for GC0113

This sets out the Workgroup Consultation Responses received as part of the Workgroup Consultation which ran from 1 November 2019 to 5pm on 22 November 2019.

Annex 8: Proposed Workgroup Alternatives for GC0107

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

Annex 9: Proposed Workgroup Alternatives for GC0113

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

Annex 10: Legal Text for Original and all WAGCMs

This sets out the legal text for the Original solutions and all WAGCMs.

Annex 11: Code Administrator Consultation Responses

This sets out the Code Administrator Consultation Responses received as part of the Code Administrator Consultation for GC0107 and GC0113, which ran from 14 February 2020 to 5pm on 6 March 2020.