

# Alternative request Proposal form

Grid Code

Modification potential alternative submitted to: *(complete modification number this alternative is being submitted to)*

What stage is this document at?

# GC0101

**Mod Title: As per original (Removing More Stringent Requirements)**

**Purpose of alternative Proposal:**

As per the Original.

**Date submitted to Code Administrator: xxxx**

**You are: A Workgroup member**

**Workgroup vote outcome: Formal alternative/not alternative**

*(Should your potential alternative become a formal alternative it will be allocated a reference)*

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*Should you require any guidance or assistance with this form and how to complete it please contact the Code Administrator at [grid.code@nationalgrid.com](mailto:grid.code@nationalgrid.com)*

01 Proposed alternative

02 Formal Workgroup alternative



### Any Questions?

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## 1 Alternative proposed solution for workgroup review

Removing More Stringent Requirements

This proposed alternative was raised at the second Workgroup meeting<sup>1</sup> where the Proposer confirmed that it was the intention, with GC0101 (original) that all the existing obligations placed on new connecting parties within the (GB) national network codes (such as, but not limited to, the Grid Code, the Distribution Code, the Engineering Requirements, the CUSC etc.,) would continue (with the GC0101 original proposal) to be applied to future parties connecting under the RfG, DCC and HVDC Network Codes. In other words, the obligations in those EU Network Codes would be applied to future parties connecting whilst retaining all existing national network code obligations. In short, it was not intended that, in principle, any obligations for future connecting parties would be removed from the national network codes as a result of the GC0100 original proposal.

However, a Workgroup member identified that this appeared to be incompatible with the requirements of the Third Package, and in particular Articles 8(7) and 21 of Regulation 714/2009<sup>2</sup>.

*Article 8(7)*

*“The network codes shall be developed for cross-border network issues and market integration issues and shall be without prejudice to the Member States’ right to establish national network codes **which do not affect cross-border trade.**”* [emphasis added]

*Article 21*

*“This Regulation shall be without prejudice to the rights of Member States to maintain or introduce measures that contain **more detailed** provisions than those set out herein or in the Guidelines referred to in Article 18.”* [emphasis added]

The Workgroup member highlighted that when the RfG was first drafted by ENTSOE (noting that the proposer of GC0101, National Grid, was an active member of the RfG drafting team for ENTSOE) they had included an Article 7, which was subsequently deleted by the Commission on 14th January 2014.

That old Article 7 said the following:

*“This Network Code shall be **without prejudice to the rights of Member States to maintain or introduce measures that contain more detailed or more stringent provisions than those set out herein**, provided that these measures are compatible with the principles set forth in this Network Code.*” [emphasis added]

Of particular relevance to the currently discussions are the parts emphasised in bold.

It was clear, by their drafting, that ENTSOE intended to be able to maintain (or introduce later) requirements contained in the exiting national network codes<sup>3</sup> where those requirements were (or could be in the future) more stringent than the provisions set out in the EU Network Codes.

The Commission explicitly removed this proposed wording by ENTSOE.

Shortly after the Commission's deletion of the old Article 7 in January 2014, and at the prompting of GB stakeholders (including the Workgroup member who raised this potential alternative) Ofgem enquired of the Commission as to why that article had been deleted.

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<sup>1</sup> Held on 6<sup>th</sup> July 2017

<sup>2</sup> <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2009:211:0015:0035:EN:PDF>

<sup>3</sup> Such as, but not limited to, the Grid Code, the Distribution Code, the Engineering Requirements, the CUSC etc., in GB

In their response dated 28th February 2014, the Commission wrote to Ofgem in the following terms:

*“1. that Article 21 of Regulation (EC) No 714/2009 already provided for the possibility for Member States to adopt **more detailed** measures and that there was thus no need to reiterate this possibility in the ENC RfG”*  
[emphasis added]

*“2. the adoption by Member States of measures more **stringent** than the ones of the ENC RfG (to the extent of measures with cross-border trade effect) **would not be in line with Article 21 of Regulation (EC) No 714/2009**, i.e. if the Member states were to adopt more stringent measures then it should be proved that there is no cross border trade effect of doing so”* [emphasis added]

This response was shared by Ofgem with GB stakeholders (including the proposer of GC0101, National Grid) shortly after.

Over a year later, on 26th June 2015, the RfG (and later the DCC and HVDC) Network Code was approved via the Comitology procedure, noting that in doing so, it:

*“...**provide[s] a clear legal framework for grid connections**, facilitate Union-wide trade in electricity, ensure system security, facilitate the integration of renewable electricity sources, increase competition and allow more efficient use of the network and resources, for the benefit of consumers”<sup>4</sup>* [emphasis added]

As part of that approval process an arrangement was put in place by DECC (later BEIS) and Ofgem to canvass GB stakeholder views (including from the proposer of GC0101, National Grid) on any 'red line' items that the stakeholder(s) believed that DECC and Ofgem should seek to change in each of the respective EU Network Code prior to its approval. The Workgroup member could not recall National Grid identifying, as one of its 'red line' items, the need to allow for more stringent obligations (to those set out in the EU Network Codes) being placed on future connecting parties in GB.

The Workgroup member was also unaware of any other TSO in other Member States having, likewise, raised any similar concerns in respect of more stringent obligations in the intervening seventeen month period (from mid January 2014 to late June 2015) as the RfG Network Code was proceeding through the approvals process.

Clearly in the intervening seventeen month period TSOs could, if they believed this issue to be important, have put forward 'more stringent' obligations if they were required; such as those, for example, needed for maintaining the security of the electrical system; for inclusion in the EU Network Codes. If this had been done at the time then, as such, they would not, in law, be 'more stringent' in terms of Article 8(7) or Article 21 as any obligation(s) would not be in the national network codes (but rather in the EU Network Codes). However, this was not done by the TSOs, despite there being time for them to do so if they wished.

As part of the implementation of the EU Network Codes arrangements have been put in place for stakeholder involvement going forward (this is, for example, set out in Article 11 of the RfG, Article 10 of the DCC and Article 11 of the HVDC).

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<sup>4</sup> RfG, 14<sup>th</sup> April 2016, Recital 3

As a result a ('combined') stakeholder committee for the three connections codes<sup>5</sup> (RfG, DCC and HVDC) was established in 2016. Chaired by ACER, with secretariat support from ENTSOE it brings together pan European trade associations etc., of stakeholders with interest in the three EU Network Codes relating to connections.

One of the questions that arose early on in the life of the connections codes stakeholder committee was around applying more stringent requirements within the national network codes.

This question was posed to the Commission in the following terms:

*"Can a Member State impose more stringent requirements by a separate legislation than imposed by the network code Requirements for Generators (RfGNC)?"*

The Commission's answer to the question was provided in its presentation to the stakeholder committee on 8th September 2016 (which was subsequently repeated at the 9th December 2016 and 7th June 2017 meetings). The answer is as follows:

**•In general, no – not outside of the values provided for in the code.**  
[emphasis added]

**•But:** *"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 to ensure the best use of the technical capabilities of a power-generating module, if it is required to preserve or to restore system security."* Article 13. [emphasis added]

**•"The network codes shall be developed for cross-border network issues and market integration issues and shall be without prejudice to the Member States' right to establish national network codes **which do not affect cross-border trade.**"** Article 8, Regulation 714." [emphasis added]

This issue had also been brought to the attention of GB stakeholders (including the proposer of GC0101, National Grid) in the spring of 2014 via a presentation which was given to meetings of the three relevant GB stakeholder bodies at that time (ECCAFF, JESG and the joint DECC/Ofgem Stakeholder Group).

That spring 2014 presentation was also shared with the GC0101 Workgroup prior to meeting 3<sup>6</sup>. The Workgroup member highlighted a number of points in that presentation (some of which have been set out already in the above few paragraphs so are not repeated here), including:

*– Firstly: burden of proof to say a particular "more stringent" national measure (over and above the ones of the ENCs) does not affect cross border trade resides with the Member State (not stakeholders)*

*– Secondly: the presumption for all "more stringent" national measures (over and above the ones of the ENCs) is that they are not legally binding*

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<sup>5</sup> Further details, including papers / minutes etc., can be found at <https://www.entsoe.eu/major-projects/network-code-implementation/stakeholder-committees/Pages/default.aspx>

<sup>6</sup> Held on 3<sup>rd</sup> August 2017

unless and **until the Member State** (not stakeholders) **has “proved that there is no cross border trade effect”**<sup>7</sup> [emphasis added]

“• In terms of Art 8 and Art 21 what do “...which do not affect cross-border trade...” and “... no cross border trade effect...” mean?

• Important to be mindful of very strong ENTSOs arguments about Type A generators – individually an 800W generator will not affect cross border trade but, cumulatively, they will have an effect on cross border trade”<sup>8</sup>

“• Single GB code\* requirement:

- on one generator, maybe a case of there being no cross border affect?
- cumulatively on multiple generators, a case that there is an affect?

• Multiple GB code\* requirements:

- cumulatively on one generator, some cross border affect?
- cumulatively on multiple generators, a clear affect?

• All GB code\* requirements:

- cumulatively on one generator, some cross border affect?
- cumulatively on multiple generators, a clear affect?

\* document(s) where national requirements are set out - such as GC, DC, DCUSA, BSC, CUSC, Engineering Recommendations (G59 / G83) etc.”<sup>9</sup>

In respect of the effect on cross border trade of obligating future connecting parties in GB, such as generators<sup>10</sup>, to meet more stringent requirements than those set out in the respective EU Network Code, the Workgroup member highlighted to the Workgroup twelve examples of additional costs etc., which, in that scenario, a generator could (would?) face.

These examples were:

- 1) “pay for the extra obligations to be assessed and the solutions identified;
- 2) pay for the extra equipment or pay for the extra procedures to be developed to meet the extra obligations;
- 3) pay for the operation and maintenance of the extra equipment;
- 4) pay for the extra operational costs of the procedures (including extra staff);
- 5) pay for the extra equipment and procedures to be internally(\*) tested (prior to the network operator compliance testing);
- 6) pay for the network operator’s compliance testing of the extra equipment and procedures;
- 7) have to include a risk premium for items (5) and (6) in terms of if the tests are failed or delayed and either (a) remedial actions / costs are incurred to put this right and / or (b) the delay results in the plant not commissioning on time (delaying the revenue income being received);

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<sup>7</sup> Slide titled ‘Another point of view (3)’

<sup>8</sup> Slide titled ‘Another point of view (4)’

<sup>9</sup> Slide titled ‘Another point of view (5)’

<sup>10</sup> But not limited to generators - the DCC Network Code concerns demand connections and the HVDC Network Code deals with the connection of HVDC systems.

8) *in respect of (7) if the tests under items (5) and (6) fail, then pay for the extra equipment/ procedures changes plus the (re) testing of these elements (or the full rerun of the testing);*

9) *pay for the replacement costs of the extra equipment either at the end of its design life or if the equipment fails during its operational lifetime;*

10) *have to include a risk premium for the failure of the extra equipment resulting in the plant being non compliant and the plant being placed off line till the repairs or replacement can be undertaken;*

11) *in terms of (10) pay for the (re) testing (internal and / or compliance) of the repaired / replaced extra equipment; and (last, but not least)*

12) *pay the capital cost for all these extra items above, noting that last time we look as an industry at this, the WACC of GB generators was over twice and in some cases more than quadruple that of network operators.*

*(\*) the test is undertaken for the internal purposes of the generator, although the actual testing itself maybe undertake by an external provider, such as the equipment supplier.”<sup>11</sup>*

The Workgroup member noted that this list is not comprehensive and that other generators may identify additional items that have, inadvertently, been omitted. (e.g costs associated with compliance with other codes such as mandatory participation in the balancing mechanism for 132 kV connected generators in Scotland > 10 MW) (?)

In the view of the Workgroup member it was clear that the cumulative effect, of all these additional costs<sup>12</sup>, on multiple generators in GB, would affect cross border trade; although the Workgroup member acknowledged, as per the Commission's statement<sup>13</sup> of 28th February 2014 to Ofgem, that it was not for the stakeholder, such as a generator, to prove that there was a cross border trade affect, but rather for *those who wish to apply more stringent requirements* (than those in the EU Network Codes) to prove that there is no cross border trade effect of doing so.

The Workgroup member was mindful that the GC0101 proposals would, in due course, be presented to the National Regulatory Authority (Ofgem) for determination. In this context, the Workgroup member was alive to the duty placed upon Ofgem (as the NRA for GB) "to ensure compliance with European Union Law". This was summarised under duties of the regulatory authority; in the Commission's interpretive note on Directive 2009/72 concerning the common rules for the internal market in Electricity (and the Gas equivalent) dated 22nd January 2010<sup>14</sup>; in the following terms:

*“Article 37(1)(b) of the Electricity Directive and Article 41(1)(b) of the Gas Directive state that the NRA has the duty of ‘ensuring compliance of transmission and distribution system operators, and where relevant,*

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<sup>11</sup> Shared with the Workgroup by email on 3<sup>rd</sup> August 2017

<sup>12</sup> Arising from having to comply with the more stringent national network code obligations which go beyond what is required by the EU Network Code(s)

<sup>13</sup> *“if the Member states were to adopt more stringent measures then it should be proved that there is no cross border trade effect of doing so”*

<sup>14</sup>

*system owners, as well as of any electricity and natural gas undertakings, with their obligations under this Directive and other relevant Community legislation, including as regards cross border issues’.*

It follows from this provision that, without prejudice to the rights of the European Commission as guardian of the Treaty on the functioning of the European Union, the NRA is granted a general competence — and the resulting obligation — as regards ensuring general compliance with European Union law. The Commission’s services are of the opinion that Article 37(1)(b) of the Electricity Directive, and Article 41(1)(b) of the Gas Directive, are to be seen as a provision guaranteeing that the NRA has the power to ensure compliance with the entire sector specific regulatory ‘*acquis communautaire*’ relevant to the energy market, and this vis-à-vis not only the TSOs but any electricity or gas undertaking.”<sup>15</sup>

In light of the above, and given the statement from the GC0101 Proposer noted at the start of this item; together with the presentations (and associated discussions of the ‘more stringent’ point in terms of compliance) at the 24<sup>th</sup> July 2017 ‘Compliance with the RfG’ hosted at the ENA; the Workgroup member believed that the original proposal (by virtue of not removing ‘more stringent’ requirements contained within the GB national network codes, that it was proposed to apply to future GB connecting parties) would be incompatible with EU law for the reasons set out above<sup>16</sup> and would thus also not better facilitate Grid Code Applicable Objective (d)<sup>17</sup>:

*“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”*

Therefore, the Workgroup proposed to bring forward an alternative proposal to the GC0101 original proposal which would be to ensure that more stringent obligations contained within the GB national network codes would not be applicable to future connecting parties who fall within the scope of the RfG, DCC and HVDC Network Codes respectively; although, for the avoidance of doubt, those (GB) national network code obligations would continue to be applicable to ‘existing’ connected parties (as defined in the RfG, DCC and HVDC Network Codes respectively) unless and until they fall within the scope of the EU Network Codes for connection.

To set this in context the Workgroup member was mindful of the presentation given by the Proposer at the second Workgroup meeting setting out (in a tabular form) the items covered, in the case of generation, with the RfG Network Code for the four types of generation (A-D).

This table is shown below:

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<sup>15</sup> Found at pages 14-15 of the Commission's interpretive note.

<sup>16</sup> As well as, potentially, with respect to Competition Law for the reasons outlined under Section 2 ‘Governance – Legal Requirements’ in the GC0103 proposal:  
<http://www2.nationalgrid.com/UK/Industry-information/Electricity-codes/Grid-code/Modifications/GC0103/>

<sup>17</sup> Or the Distribution Code equivalent Applicable Objective (iv).



Technical Requirements	Type A	Type B	Type C	Type D
Operation across range of frequencies	•	•	•	•
Rate of change of System Frequency (ROCOF)	•	•	•	•
Limited Frequency Sensitive Mode Over Frequency (LFSM-O)	•	•	•	•
Output Power with falling Frequency	•	•	•	•
Logic Interface (input port) to cease active power production	•	•	•	•
Conditions for automatic reconnection	•	•	•	•
Operation across range of frequencies	•	•	•	•
Ability to reduce Active Power on instruction		•	•	•
Fault Ride Through and Fast Fault Current Injection		•	•	•
Conditions for automatic reconnection following disconnection		•	•	•
Protection and Control		•	•	•
Operational Metering		•	•	•
Reactive Capability		•	•	•
Active Power Controlability			•	•
Frequency Response including LFSM-U			•	•
Monitoring			•	•
Robustness			•	•
System Restoration / Black Start			•	•
Simulation Models			•	•
Rates of Change of Active Power			•	•
Earthing			•	•
Enhanced Reactive Capability and control			•	•
Voltage Ranges				•
Enhanced Fault Ride Through				•
Synchronisation				•
Excitation Performance				•

Using this summary table, the Workgroup member identified that with the potential alternative that Type A generators would only be obligated, in terms of their connection to the grid, to those items shown in the table (and so on for Types B, C and D). All other items would be considered more stringent unless it could be proven that there was no cross border trade affect of obligating generators to comply with further obligations over and above those in the RfG (and likewise in terms of the DCC for Demand and the HVDC for HCDV connecting parties).



## 2 Difference between this proposal and Original

This proposal will ensure that the GB code changes set out in GC0101 are not more stringent than the requirements set out in the RfG.

## 3 Justification for alternative proposal against Grid Code objectives

As per original.

Impact of the modification on the Relevant Objectives:	
Relevant Objective	Identified impact
To permit the development, maintenance and operation of an efficient, coordinated and economical system for the transmission of electricity	Positive
To facilitate competition in the generation and supply of electricity (and without limiting the foregoing, to facilitate the national electricity transmission system being made available to persons authorised to supply or generate electricity on terms which neither prevent nor restrict competition in the supply or generation of electricity)	Positive
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
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	Positive
To promote efficiency in the implementation and administration of the Grid Code arrangements	Positive

In broad term the reasons why this proposal better meet the Applicable Objectives are as per the Original whilst, in addition, ensuring that the proposal is compliant with the Electricity Regulation and the EU Network (connection) Codes as the original proposal; in applying more stringent requirements on connecting generators, demand facilities and HVDC system than permitted by the EU Network (connection) Codes; is incompatible with the Electricity Regulation and the EU Network (connection) Codes.

Furthermore, when compared with the original, this alternative also better facilitates efficiency in the implementation and administration of the Code arrangements as it ensure that the solution to the Original defect is approvable and implementable.

## 4 Impacts and Other Considerations

As per the Original.

*Consumer Impacts*

As per the Original.

## 5 Implementation

As per the Original.

## 6 Legal Text

As per the Original, not yet agreed.