Grid Code Workgroup Consultation Response Proforma

GC0100 EU Connection Codes GB Implementation – Mod 1

Industry parties are invited to respond to this consultation expressing their views and supplying the rationale for those views, particularly in respect of any specific questions detailed below.

Please send your responses by **5pm** on **2 October 2017** to grid.code@nationalgrid.com. Please note that any responses received after the deadline or sent to a different email address may not receive due consideration by the Workgroup.

Any queries on the content of the consultation should be addressed to Chrissie Brown at Christine.brown1@nationalgrid.com

Respondent:	*Andy Vaudin* *andrew.vaudin@edfenergy.com*
Company Name:	*EDF ENERGY*
Please express your views regarding the Workgroup Consultation, including rationale. **(Please include any issues, suggestions or queries)**	*For reference, the Grid Code objectives are:* i. To permit the development, maintenance and operation of an efficient, coordinated and economical system for the transmission of electricity ii. To facilitate competition in the generation and supply of electricity (and without limiting the foregoing, to facilitate the national electricity transmission system being made available to persons authorised to supply or generate electricity on terms which neither prevent nor restrict competition in the supply or generation of electricity) iii. Subject to sub-paragraphs (i) and (ii), to promote the security and efficiency of the electricity generation, transmission and distribution systems in the national electricity transmission system operator area taken as a whole iv. To efficiently discharge the obligations imposed upon the licensee by this license and to comply with the Electricity Regulation and any relevant legally binding decisions of the European Commission and/or the Agency; and v. To promote efficiency in the implementation and administration of the Grid Code arrangements

Standard Workgroup Consultation questions

Q	Question	Response
1	Do you believe that GC0100 Original proposal, or any potential alternatives for change	Yes, we agree that GC0100 Original proposal facilitates the Grid Code objectives.

	that you wish to suggest, better facilitates the Grid Code Objectives?	
2	Do you support the proposed implementation approach?	We support the proposed implementation approach of amending the existing Grid Code and Distribution Code.
3	Do you have any other comments?	No.
4	Do you wish to raise a WG Consultation Alternative Request for the Workgroup to consider?	No.

Specific GC0100 questions

Q	Question	Response
1	Removing More Stringent Requirements' concerns have been expressed by some Workgroup members that applying more stringent requirement on newly connecting parties (that fall within this scope of the EU Network Codes for generation, demand and HVDC systems) maybe incompatible with EU law. Do you have any views on this topic that could assist the Workgroup when they are considering the topic in due course?	We are not of the view that the Original proposal would apply more stringent requirements than the EU Network Codes allow. We are not clear what form the Grid Code would take under any "removing more stringent requirements" alternative proposal. A concern would be that many important requirements within the existing Grid Code would not be applicable to plant covered by the EU Codes. As an example, it could mean that the recent GC0077 sub-synchronous resonance modification was not applicable to new plant. It is our view that by removing important elements of the Grid Code, the "removing more stringent requirements" alternative proposal would work against Grid Code objectives (i) and (iii). We would expect National Grid to provide clear guidance to the workgroup as to any legal interpretations behind these "more stringent requirements" concerns.
2	Are you comfortable with using the EU definition of Maximum Capacity instead of the GB definition of "Registered Capacity"?	We have no objection to using Maximum Capacity, but do not believe that the implications of using this instead of Registered Capacity, if any, have been detailed in the workgroup report.
	Fast Fault Current Injection questions	
3	What are your views on options 1, 2 and 3 as set out in	The National Grid System Operability Framework (SOF) analysis shows low minimum

	paragraph 4.4 for Fast Fault Current Injection and which option (if any) would you prefer?	Short Circuit Level at present, and declines in SCL in the coming decades. We share the National Grid operability concerns regarding falling Short Circuit Levels on the system and the consequent need for plant to be able to provide FFCI as one area of mitigation. However, we note that the VSM technology envisaged by the Proposer could only be regarded as emerging or at the development stage. We would expect National Grid to provide its view to the workgroup on the questions raised in 5 below.
4	Do you have any alternative fast fault current injection solutions noting that the requirement applies to the Converter not the wider Power System?	No.
5	In considering the three Fast Fault Current Injection options 1, 2 and 3 in paragraph 4.4 do you have any comments in relation to technology readiness, cost implications, and can they be implemented date within the context of product development timescales?	We do not have this information, but believe that these are important areas for the workgroup to consider.
6	Do you have any evidence to support your views?	See 5
7	Do you have any views on the specific costs related to the additional requirements?	See 5
8	Is the current proposed wording for the remote end HVDC and DC Connected Power park modules sufficient to facilitate future new technology?	Whilst not being able to predict what future technology developments might be, we do agree that the proposed wording allows a reasonable degree of flexibility.
	Banding questions	
9	What are the specific costs related to the additional requirements?	We do not have any details on costs related to lowering the banding thresholds.
10	Do you have any views on the banding thresholds for the original and those suggest for the possible alternative?	We understand the system security and operability justifications for proposing lower banding thresholds. We note that Continental Europe TSOs have in many cases also proposed lower banding. It does not seem to have been explained why the B banding threshold is proposed at the level of 1MW, when there could potentially be benefits for system security, particularly FRT capability with an amended threshold.

11	Can you provide any feedback/comments on the associated legal text?	We agree with the form of the draft legal text, but note that it will require further workgroup review prior to being sent to Ofgem.
	Fault Ride Through	
12	Do you support the fault ride through voltage against time curves If not please state why you disagree, what alternative you would recommend and your justification for any alternative?	We support the FRT proposals in general. However, the report does not include the analysis, which would demonstrate that there will not be system security issues and associated costs to consumers, from setting the band B synchronous generator Uret to 0.3 p.u. rather than aligned with other band B generators at 0.1 p.u.
13	Do you have any specific views about the proposal to modify the stage 2 under voltage protection for distributed generation interface protection?	We agree that this is a reasonable approach.
	Other questions	
14	Does the Legal drafting contained in annex 2 and 3 deliver the intent of the solution outlined in section 3?	We agree with the form of the draft legal text, but note that it will require further workgroup review prior to being sent to Ofgem.
15	Do you have any information based on the proposed solution in respect of implementation costs?	None.