

## Workgroup Consultation Response Proforma

### GC0141: Compliance Processes and Modelling amendments following 9th August Power Disruption

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 to [grid.code@nationalgrideso.com](mailto:grid.code@nationalgrideso.com) by 5pm on **30 March 2021**. Please note that any responses received after the deadline or sent to a different email address may not receive due consideration by the Workgroup.

If you have any queries on the content of this consultation, please contact Joseph Henry [Joseph.henry@nationalgrideso.com](mailto:Joseph.henry@nationalgrideso.com) or [grid.code@nationalgrideso.com](mailto:grid.code@nationalgrideso.com)

Respondent details	Please enter your details
<b>Respondent name:</b>	Mark Horley
<b>Company name:</b>	National Grid ESO
<b>Email address:</b>	Mark.horley@nationalgrideso.com
<b>Phone number:</b>	07733301519

#### 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*

**Please express your views regarding the Workgroup Consultation in the right-hand side of the table below, including your rationale.**

#### Standard Workgroup Consultation questions

1	Do you believe that the GC0141 Original Proposal better facilitates the Applicable Objectives?	Yes – objective C (promoting security and efficiency of the system) – as the Original is a direct response to concerns raised by Ofgem and BEIS.
2	Do you support the proposed implementation approach?	Yes – noting that benefits are maximised by an early adoption.
3	Do you have any other comments?	No.
4	Do you wish to raise a Workgroup Consultation Alternative Request for the Workgroup to consider?	No.
<b>Modification Specific Workgroup Consultation questions</b>		
5	What should the Independent Engineer's deliverables be with respect to the outcome of the compliance process?	<p>In the ESO's opinion, the independent engineer's role should be limited to verifying that the simulations have been carried out in accordance with the Grid Code and are representative of the performance of the User's plant and apparatus. The deliverable is the approval of the User's simulation studies which are passed to the ESO.</p> <p>Assessment of compliance remains the responsibility of the ESO.</p>
6	Should there be specific requirements on the retention of data for the User and/or the ESO?	<p>The User is the primary reference source of and is responsible for maintaining all applicable data and compliance evidence for the lifetime of the plant and apparatus.</p> <p>The ESO is the recipient of the User's data and has no obligations to retain such data beyond that which is needed to execute its licence obligations.</p>
7	Should the detailed design stage be more clearly identified within the Grid Code?	The ESO's point of view is that there is no requirement to identify the detailed design stage; the context for this question within the Alternative proposal relates to the timing of a User requesting clarity from the ESO before carrying out the simulation studies which it is required to submit to the ESO. The User may ask the ESO for clarity around any areas of concern ahead of carrying out any such simulation studies.

8	What stages of implementation would the industry believe are appropriate?	<p>The ESO has proposed that the independent engineer is only responsible for overseeing the simulation studies. As such, the implementation is simple within the Grid Code.</p> <p>The independent engineer as proposed in the Alternatives would not be a suitable person for dispute resolution as the User and the ESO have clear responsibilities for compliance.</p>
9	Should the ESO be required to undertake the responsibilities associated with an independent engineer? Please outline your rationale.	<p>The ESO has clear responsibilities for the final assessment of the compliance evidence submitted. The ESO therefore believes it is not best placed to examine the internal processes of a User in preparing simulation studies.</p>
10	Should there be greater definition be given to “substantial modification” given that the self-certification process places the onerous on the User to make these decisions?	<p>In relation to the independent engineer, the decision on whether changes to the plant and apparatus are a “substantial modification” largely rests with the User; the User has the best view on how the change impacts on the performance of the User’s plant in relation to Grid Code obligations.</p> <p>The ESO does publish descriptions of common changes which may well constitute substantial modifications. However this is not necessarily exhaustive given the breadth of technologies now present within Users’ plant and apparatus.</p>
11	Should there be a review of the effectiveness of GC0141 post implementation and after the industry has experience of implementing?	<p>Given that the GC0141 changes are driven by an unexpected loss of generation, it follows naturally that should the network experience further similar incidents, then additional measures may be necessary.</p> <p>The ESO is continuously reviewing the reliability of the operation of the system. However, if the industry feels that there is a need to review then we are happy to consider and accommodate such discussions.</p>
12	What are your thoughts on the workgroup’s discussions regarding compliance repeat plan? How would this work in regard to	<p>The ESO proposal does not require the User to resubmit studies or simulations as part of the Compliance Repeat Plan – therefore there is no requirement on Users to engage an independent engineer. If the alternative proposals by members of the working group extend the role of independent engineer into other areas, then potentially an</p>

	Independent Engineer Verification?	independent engineer might play a part in the compliance repeat plan.
13	Do you believe that screening processes should be applied ahead of detailed dynamic EMT simulation, and if so, do you believe data exchange should support that?	The ESO notes that there are already obligations in ECC.6.3.17 which imply that the ESO/TO should carry out some basic screening in order fulfil the requirement to direct the scope of interaction studies. It is important that Users have supplied necessary information to the ESO/TO prior to such screening.
14	Do you agree that the roles and responsibilities associated with interaction studies should be detailed and clarified, and to what extent?	<p>The ESO believes that the roles and responsibilities are already specified in ECC.6.3.17, which were agreed with industry participation during workgroup discussions as part of a previous Grid Code modification.</p> <p>It should also be noted that in order to carryout interaction studies the ESO/TOs will need to ask for EMT models from existing Users with converter based technologies, particularly larger sites. This is currently not explicitly included in this modification but might be requested under PC.A.7 and shared with other Users.</p>
15	Do you agree that improved definitions of the types of analysis and definitions suitable analysis environments ahead of the detailed design phase provides useful clarity and minimised project disruption in delivering the principles of this grid code change? Should these form part of legal text or made available with the modification as guidance that may be separately updated from time to time	The ESO has agreed and included in the drafting provision for discussion and agreement on the details of studies prior to the User carrying out the work. Given that every project is different, it would seem sensible that the detail of the simulations required is handled on a project-to-project basis rather than a one size fits all approach within the legal text.
16	Do you agree that clarifying roles and responsibility in the management of	From our response to question 14, there should not be confusion or unnecessary overlap which may otherwise result in excess costs to the User.

	interaction studies assists more clearly defining the analysis needs of each party, minimising confusion, unnecessary overlap and cost in the design phase?	
17	Do you agree that small signal analysis supporting the screening of interaction cases should be clearly specified within this grid code change, to better focus the range of EMT studies being discussed, and within the context of existing SSTI and SSO analysis better inform assessment of risks and the need for detailed dynamic simulation which includes shaft data for SSTI?	The ESO notes that under the provisions of ECC.6.3.17 the ESO or TO is required to do basic screening in support of the interaction studies; it does not seem appropriate that the methods the ESO/TO should use are prescribed within the Grid Code.
18	What is your view on the separation of the simplified RMS model and EMT model when it comes to confidentiality, distribution and the protection of IP?	<p>The ESO believes that the levels of confidentiality required when handling the RMS and EMT models are different; this is recognised in the Proposer's solution whereby the option to encrypt the EMT model is put forward.</p> <p>However, there is a need to share RMS and EMT models with Users on occasion where necessary for the User to complete the studies required of them; the ESO believes that some sharing under controlled circumstances will inevitably be required. The ESO recognises that reasonable controls must be in place to protect IP.</p>
19	As it currently stands, what is your view on the process by which detailed manufacturer EMT-type models are exchanged for necessary studies as	The ESO believes that in order for Users to complete the required simulations for interactions, some sharing of EMT-type models is necessary under controlled situations.

	part of project delivery?	
20	Are sections PCA.9.8 and PC.A.9.9 better suited to a guidance document and or should they be included, at least partly, within the legal text? Are there any specific concerns with respect to requirements set out within those sections?	<p>The ESO believes that the Planning Code needs to include sufficient technical requirements for the models in order to ensure models supplied are suitable for ESO/TO use.</p> <p>Potentially, some items from the current proposed drafting might be transferred into guidance. However, the Planning Code will need to specify time constants, step sizes, and compiler options in order to ensure that models from different Users/manufacturers will run successfully together.</p>
21	In terms of the requirement for existing users to provide sub-synchronous torsional data for existing plant that may be provided, do you see any issues in regard to the provision of this data?	<p>The ESO believes that it should be possible to derive torsional data for existing plant when required.</p> <p>There may be cost implications in deriving this information where there are not suitable records from manufacture of the plant. In such situations, we believe the connecting User should bear reasonable costs as part of the development.</p>
22	Should responsibility for interoperability remain with the generator or the ESO, inclusive of interoperability studies such as control interactions and SSCI/SSTI studies? Please provide your reasoning.	<p>While the ESO accepts that day to day interoperability of the transmission network is the responsibility of the ESO/TO, prior to connection of a new generator it is appropriate for a connecting party to ensure that their plant and apparatus will behave in a stable manner in relation to parties already connected to the network.</p> <p>The connecting User and their manufacturer or supplier is best placed to iterate with their control design in order to ensure that these goals for stability are met.</p> <p>Should the industry decide that the ESO/TOs should undertake such work, timescales for ESO/TO to agree connection dates may be extended beyond Users' current expectations.</p>