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Workgroup Consultation Response Proforma

GC0168: Submission of Electro Magnetic Transient (EMT) Models

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@nationalenergyso.com **5pm on 21 February 2025**. Please note that any responses received after the deadline or sent to a different email address may not receive due consideration.

If you have any queries on the content of this consultation, please contact grid.code@nationalenergyso.com

Respondent details	Please enter your details	
Respondent name:	Tim Ellingham	
Company name:	RWE Generation UK plc	
Email address:	Tim.ellingham@rwe.com	
Phone number:	07989321766	
Which best describes your organisation?	<input type="checkbox"/> Consumer body <input type="checkbox"/> Demand <input type="checkbox"/> Distribution Network Operator <input checked="" type="checkbox"/> Generator <input type="checkbox"/> Industry body <input type="checkbox"/> Interconnector	<input type="checkbox"/> Storage <input type="checkbox"/> Supplier <input type="checkbox"/> System Operator <input type="checkbox"/> Transmission Owner <input type="checkbox"/> Virtual Lead Party <input type="checkbox"/> Other

I wish my response to be:

(Please mark the relevant box)

☒ **Non-Confidential** (this will be shared with industry and the Panel for further consideration)

☐ **Confidential** (this will be disclosed to the Authority in full but, unless specified, will not be shared with the Workgroup, Panel or the industry for further consideration)

For reference the Applicable Grid Code Objectives are:

- To permit the development, maintenance and operation of an efficient, coordinated and economical system for the transmission of electricity

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- 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*

* See Electricity System Operator Licence

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

Standard Workgroup Consultation questions		
1	Do you believe that the Original Proposal and/or any potential alternatives better facilitate the Applicable Objectives?	<p>Mark the Objectives which you believe the Original Solution better facilitates:</p> <p>Original <input type="checkbox"/>A <input type="checkbox"/>B <input checked="" type="checkbox"/>C <input type="checkbox"/>D <input type="checkbox"/>E</p> <p>Although we understand the principle benefit the NESO needs to appreciate the significant cost involved in doing this for legacy plant and the impacts of this cost, with the worst case being closure of plant.</p>
2	Do you support the proposed implementation approach?	<p><input type="checkbox"/>Yes</p> <p><input checked="" type="checkbox"/>No</p> <p>Also see question 8. The validation in PC.A.9.7.3 states 3 months, there is a possibility that low merit plant could be out of the money for that duration in the future thus performing no running to validate model. Some allowance should be made for this and/or added to a cost recovery measure.</p>
3	Do you have any other comments?	Click or tap here to enter text.

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4	Do you wish to raise a Workgroup Consultation Alternative Request for the Workgroup to consider?	<input type="checkbox"/> Yes (the request form can be found in the Workgroup Consultation Section) <input checked="" type="checkbox"/> No Click or tap here to enter text.
5	Do you agree the Workgroup's assessment that GC0168 does not impact the European Electricity Balancing Regulations (EBR) Article 18 terms and conditions held within the Grid Code?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Click or tap here to enter text.
6	Do you have any comments on the Impact of GC0168 on the EBR Objectives?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Click or tap here to enter text.

Specific Workgroup Consultation questions

7	Do you believe it is reasonable to require those Users identified in the draft legal text in PC.A.9.2.2 to provide an EMT model when requested by the NESO noting the importance of accurate modelling on power system	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No We understand the driver but the NESO likely miscalculates the difficulty and cost we have experienced in retrospectively creating models for legacy plant.
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	design, operation and post event analysis?	
8	Do you believe the timelines proposed for the submission of an EMT model as drafted in PC.A.9.2.2.1 are appropriate?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <p>No, our experience that large legacy plant can take more than 9 months to achieve modelling if it has not been done before. Some of the delay can be attributed to the guidance hitherto from the NESO, which is difficult to define scope regarding the depth into the plant required to be simulated by a contractor. More illustrative guidance in relation to OC and CCGT plant would aid in delivery timescales.</p>
9	Do you believe that it is appropriate to set out the remuneration and cost recovery provision of the models in the CUSC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <p>Absolutely. We believe the meeting of this code modification could be at great time and expense for existing generators with legacy plant. The NESO and the Authority need to appreciate the magnitude of cost that legacy generators are faced with when attempting to create models for older and obsolete equipment. If no cost recovery in place it could call into question the viability of end of life plant. This will then produce the opposite result of a more secure system if such plant ceases availability.</p>
10	Do you believe it is appropriate to define the detail of the model submission in an Electrical Standard rather than in a specific part of the Grid Code, or as a separate guidance note. If you do not believe this to be the case, please state why you would support	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <p>Our experience of guidance notes has been somewhat negative. We believe that a RES would perform the task better. However, and as with many other technical code mods, we would ideally promote the idea of everything being in the Grid Code to enable a 'one-stop-shop' for all code users.</p>

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	an alternative approach?	
11	As part of the electrical standard, it is expected that an EMT model would be submitted in PSCAD Version 5. Do you have any views on this approach and if so, please state what they are?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No We'll take this opportunity to reiterate a few points: 1. The NESO should not be defining specific software where the Code does not. 2. The resulting NESO requirement for EMT in PSCad and RMS in Powerfactory adds yet more expense and complication. A single software for both model regimes would be more cost efficient, Powerfactory can also undertake EMT, as can Simulink. The restrictions on software package also limits contractor selection, which in turn may drive prices higher.
12	Do you believe that the timeline proposed for the Workgroup meetings and target date of September 2025 are reasonable?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Click or tap here to enter text.
13	Does this proposal deal adequately with LEEMPs?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No But how would cost recovery work if not party to the CUSC?
14	Please could you share your rationale for a cost-recovery mechanism to be put in place supported by evidence, where available. If no cost recovery mechanism were available, what do you	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No EMT modelling on legacy plant can run into six figures from OEMs. The time, complexity and the lack of alternative experienced providers to reverse engineer plant models calls in question the viability of operating older plant. The NESO has the principled view that it needs to create a more stable and robust system, however it is becoming apparent that there is an unintended consequence waiting in the wings. This

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	believe the implications would be?	consequence is the closure large synchronous plant, the impact of this would be self-apparent.
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