

Code Administrator Consultation Response Proforma**GC0151: Grid Code Compliance with Fault Ride Through Requirements**

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 by **5pm on 27 September 2021**. 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 Nisar Ahmed nisar.ahmed@nationalgrideso.com or grid.code@nationalgrideso.com

Respondent details	Please enter your details
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I wish my response to be:
(Please mark the relevant box)

Non-Confidential Confidential

Note: A confidential response will be disclosed to the Authority in full but, unless agreed otherwise, will not be shared with the Panel or the industry and may therefore not influence the debate to the same extent as a non-confidential response.

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

Standard Code Administrator Consultation questions	
<p>1 Do you believe that the GC0151 Original Proposal or WAGCM1, WAGCM2, WAGCM3, WAGCM4, better facilitates the Applicable Objectives?</p>	<p>The original proposal allows the ESO to seek a restriction of only up to 30% of a user's output in the event of a suspected fault ride through failure where an explanation is not provided rising to 50% if an explanation is still not provided after 3 months.</p> <p>This is perverse and seems to be based on an assumption that removing 30% of the risk is the same as removing the risk entirely. After a suspected FRT failure the ESO has to assume that the user concerned may fail again coincident with another fault so increasing the potential consequences to the system of such a fault. In the events of Feb-Apr 2021 that led to this modification there was an example of exactly such a repeat failure. Consequential failure is also what led to the severity of the disturbance on 9 Aug 2019. If the ESO is not able to seek up to a full restriction of the output of a user suspected of FRT failure then any remaining output from this user increases the risk to security of supply by in effect increasing the size of the largest infeed loss which is exactly what the recent work on the Frequency Risk Control Report (FRCR) and Accelerated Loss of Mains Change Programme (ALoMCP) have been seeking to mitigate. The ESO could choose to accept this risk or to mitigate it by taking additional operational actions. Either of these outcomes would have consequences for consumers in terms of increased risk of disruption to supplies or increased costs.</p> <p>The proposal therefore has a negative impact on objective (c), as it does not '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'.</p> <p>It also has a negative impact on objective (b) 'Facilitating effective competition in the generation and supply of electricity' since by moving risks onto the ESO this means that the consequence of an individual user failing to comply with their Grid Code requirements will be that the costs or risk associated with this will be socialised.</p> <p>The ESO alternative (WAGCM1) allows a full restriction to be agreed in the rare cases where an explanation cannot be quickly determined. It is therefore positive against objectives (c) and (b). We would stress that such a situation occurring</p>

		<p>will be rare as in 95% of suspected FRT cases an explanation is easily found; and the ESO will always as well endeavour to work with users in understanding issues. Both the original and WAGCM1 contain provisions for sharing of information that will help in this respect.</p> <p>WAGCM2 comprises a set of minor clarifications to the technical requirements for fault ride through as contained in CC6.5.1 and ECC6.5.1 but does not address the process to be followed after a suspected FRT failure. While the ESO broadly supports these and views them as positive against objective (c), it is not clear that they are within the scope of this modification and it might be better if they were progressed separately which would enable more scrutiny than has been possible as part of this urgent process. The proposed changes are to Grid Code requirements that were first written in 2004 and then modified in 2018 so are likely to be less urgent.</p> <p>Combining the original with WAGCM2 as in WAGCM 3 is, as per the original, negative against objectives (b) and (c). Combining WAGCMs1&2 as in WAGCM4 is, as per WAGCM1, positive against objectives (b) and (c).</p>
2	Do you support the proposed implementation approach?	<p>Yes. We would note that the original proposal and WAGCM1 (as raised by the ESO) do not in any way change the technical requirements with which users need to comply in respect of fault ride through or their applicability (while WAGCMs2-4 include some minor clarifications) and therefore there should be no need for any leadtime to implementation.</p> <p>It is essential that the ESO has the ability to control system risks as raised in the letter to industry published on 6 May 2021 reminding stakeholders of their obligations to comply with the fault ride through requirements in the Grid Code and that where this is in question the onus is on the user to resolve it rather than the ESO having to socialise the cost of their non-compliance. This is the basis of the urgency granted to this proposal by Ofgem.</p>
3	Do you have any other comments?	<p>We would note that p4-13 of the consultation document is sourced from the proposal, much of which is based on an imperfect technical understanding. The workgroup discussion section also generally, despite the participation of the ESO, is unbalanced and contains areas that are incorrect.</p> <p>The following key points are worth highlighting:</p> <ul style="list-style-type: none"> • When a fault occurs voltage is depressed to the greatest extent at the point of the fault and this depression then propagates out dependent on the

impedance of the network and the amount of fault infeed current. For a generator wanting to determine if their FRT performance has been compliant, voltage waveforms other than at their point of connection are of very limited value other than to confirm timing.

- Speculation by the workgroup regarding the application of FRT requirements to Network Operators is confused. The applicability of FRT requirements is not in any way changed by this modification. FRT requirements apply to the owners of equipment. Networks Operators are required to ride through transmission faults only in respect of DC converters or HVDC equipment that they own. In these specific cases exactly the same requirements apply to the Network Operator as would to any other owner of such equipment.
- The argument that with-holding availability of generation suspected of FRT issues may contravene the REMIT regulation is wrong. With-holding availability of generation where there is a legitimate technical justification to do so (ie where plant is judged to be technically unavailable) is allowed and does not constitute market manipulation. In this respect the ESO would not differentiate between unavailability due to FRT failure or unavailability caused by any other physical fault or statutory safety issue. The relevant text is highlighted below:

<https://www.legislation.gov.uk/eur/2011/1227/article/5/adopted>

(13) Manipulation on wholesale energy markets involves actions undertaken by persons that artificially cause prices to be at a level not justified by market forces of supply and demand, including actual availability of production, storage or transportation capacity, and demand. Forms of market manipulation include placing and withdrawal of false orders; spreading of false or misleading information or rumours through the media, including the internet, or by any other means; deliberately providing false information to undertakings which provide price assessments or market reports with the effect of misleading market participants acting on the basis of those price assessments or market reports; and deliberately making it appear that the availability of electricity generation capacity or natural gas availability, or the availability of transmission capacity is **other than the capacity which is actually technically available** where such information affects or is likely to affect the price of wholesale energy products. Manipulation and its effects may occur across borders, between electricity and gas markets and across financial and commodity markets, including the emission allowances markets

As one final point, we would note that in other forums users have set out how risky a full load rejection trip is for them and the damage that may be caused to equipment by such a trip, hence for example the compensation necessary to be

		<p>selected to an intertrip service. Particularly for thermal generators this may well be the case and frequently plant experiencing such a trip will be unable to come back immediately at the very least until it has been carefully checked over. To want to reconnect without understanding the failure mechanism that led to a trip, and so making a recurrence likely, is poor asset management at best and potentially a serious safety concern.</p>
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