

Workgroup Consultation Response Proforma

GC0151: Fault Ride through process

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 16 August 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 **Nisar Ahmed**, Nisar.Ahmed@nationalgrideso.com or grid.code@nationalgrideso.com

Respondent details	Please enter your details
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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 GC0151 Original Proposal better facilitates the Applicable Grid Code Objectives?	<p>Whilst we support and understand the need for the requirement for the proposal, we have concerns that this proposal does not meet objective (C) fully. The areas we have concerns in relation to this objective are:</p> <ul style="list-style-type: none"> - The timescales: it is our view that the proposal does not fully cover the requirements or interaction with CP8.2 where Users are obligated to inform the System Operator of actual or suspected Grid Code non compliances – we would like to see additional clarity on how the timescales and proposed procedure would work once an issue has been established (especially if this is arrived at within the 3 month proposed window). - Forced constraint and MW limits: It is unclear what methodology has been used to establish the limits in the proposal. Evidence of how these figures have been arrived at would provide clarity on how this manages the risk. <p>In addition, we do not believe that the prescribed differences of approach between generator sites on IONs and those on FONs meets the Applicable Grid Code Objective (B) – it is understood that Fault Ride Through (FRT) non compliances have been seen on sites with either notification type. This suggests length of connection does not prevent occurrence and all sites are required to simulate compliance with these requirements prior to ION issue. This in our view does not meet Applicable Grid Code Objective (B) as all Users are not treated consistently – we would like to see more explanation and data which indicates if sites on ION are a greater risk to the system to understand the difference in proposed requirements.</p>
2	Do you support the proposed implementation approach?	We have concerns with the proposer’s solution in item 1, part 2, which refers to differing treatment depending on length of time connected to the system. Past incidents have shown that non-compliance in relation to FRT can affect Users

		<p>regardless of age of connection. Therefore, without any data based evidence on the methodology which would support the difference in approach between sites on IONs and FONs, we do not believe this meets Applicable Grid Code Objective (B) or (C).</p> <p>We support the requirement for additional measures to reduce system risk and for clarity on expectations following an incident.</p> <p>We also support the proposal for additional data to be provided by the System Operator.</p>
3	Do you have any other comments?	<p>We believe the ESO wording on its current interim process relating to SIRs needs to be amended. This wording in its current format is direct and generic. There are cases where FRT requirements do not apply (e.g. at MW output levels specified in CC/ECC.6.3.15.3) or during abnormal or non-secured faults.</p> <p>Further, we request consideration on whether this procedure should be specifically on FRT or widened generically to “plant failure” events – i.e. where an observed issue has had a “Significant Incident” on the transmission system and where a site specific incident risk assessment from the ESO on the observed issue indicates a serious risk to system security (with the User providing data as requested by an SIR).</p> <p>Any other views or comments are captured in our responses to the questions below.</p>
4	Do you wish to raise a Workgroup Consultation Alternative Request for the Workgroup to consider?	At this present time we are not considering submitting an alternative request to the workgroup.
Specific GC0151 Workgroup Consultation questions		
5	Do you have any comments on the Process to be followed after a suspected Fault Ride Through failure?	We believe that elements of this are already considered under BC2.5.2.4 / BC2.5.3.3.– following unexpected or unexplained de-synchronisation of the BM Unit, permission must be sought from the Company prior to re-synchronisation. Investigation timescales are also detailed in the Compliance

		<p>Process section of the Grid Code. Making these areas more robust may be a more efficient alternative to the creation of a new procedure.</p> <p>We have some concerns that the process lacks detail/robustness. For instance, there is no detail on what would happen if a FRT failure were established within the 3mth investigation window (as, under CP8.2, known or suspected non-compliances must be declared by Users) or if a significant risk were anticipated by the ESO (there is no risk assessment based on MW values). Also, we have a concern about whether the proposal timescales leave Users open to additional risk of sanction or penalty from the Authority should a repeat be seen.</p> <p>We support the proposal to receive more data to understand the background of the fault.</p>
6	Do you have any comments on the required sharing by the ESO of largest infeed loss information?	No comments on this item.
7	Do you have any comments on the sharing of user lessons learned information (including any information from Fault Data/Recorders)?	<p>We support this in principle. However, there would be commercial and Intellectual Property rights concerns around the sharing of commercially sensitive data. Therefore, the format and structure of what is covered would need to be agreed.</p> <p>We do not believe this is best governed through inclusion in the Grid Code. We believe it would be better to review this outside of the Grid Code to allow flexibility of response – e.g. Good Industry Practice or appropriate associated guidance note as an established best practice document would allow information to be shared in a more tailored way without formal processes associated with legal documents.</p>
8	Do you have any comments on the sharing of information by the ESO on faults (with or without identified FRT issues)?	<p>We support this sharing of additional data, especially where there is an FRT concern.</p> <p>Additionally, we emphasise that timescales are key here and should be aligned to response expectations on any procedure.</p>
9	The proposal sets out the time to investigate	We do not feel this is an appropriate timescale for a fault that has system security risk issues which have

	<p>by the User et al. Do you believe this time is appropriate or not? Please provide your rationale</p>	<p>been identified as significant by the System Operator.</p> <p>Under CP.8.2, Users are required to inform the System Operator of suspected or known non-compliances with Grid Code requirements. During the timelines set out by the proposer in item 1 it does not make provision for what is required should a FRT non-compliance be identified (or suspected) through investigations within the first 3 months.</p> <p>We would like to see the proposal widened to cover the detail for what happens once this has been determined and how this fits in with CP.8.2.</p>
10	<p>The proposal sets out the MW threshold. Do you believe this is appropriate or not? Please provide your rationale</p>	<p>We believe any limits or proposals should affect all Grid Code Users in a consistent way.</p> <p>Also, there should be clarification on how the 100MW threshold level of risk has been determined. The proposal says this will not have a significant impact on the system, however, this conclusion needs to be evidenced with an appropriate source of data, with additional explanation provided.</p> <p>Lastly, it should be clarified whether this would affect or increase the level of reserve held by the ESO. This clarity would be required to understand if the Applicable Grid Code objective (A) and (C) had been met by this proposal.</p> <p>We would also like to query if TEC is the appropriate source to use given this is a contractual value that is not replicated across all User types (e.g. Network Operators), or if this would cover all generating Units listed under the TEC value (even if there were units not under suspicion). We believe additional clarity is required here to assess the proposal against Applicable Grid Code Objective (B).</p>
11	<p>The proposal sets out the level of the forced constraint. Do you believe this is appropriate or not? Please provide your rationale</p>	<p>We do not believe this is appropriate as it differentiates between FON and ION sites, which our below answer to question 12 addresses.</p> <p>The proposal sets the forced constraint level at the lowest of 70% output for IONs, and no constraint for FON. It is our view that all Users should be treated consistently within the methodology around forced constraints.</p>

		<p>It would be helpful to clarify if the risk depends on the location of the site/fault/existing ESO constraints/system outages relating to a connection site/region rather than a generic level.</p> <p>The proposal refers to Network Operators, however, it is unclear how the proposal is specifically applied to this User type because they have not been represented in the working group forum. More thought is therefore needed to determine how the methodology should treat Network Operators.</p> <p>It is our view that a potential requirement to constrain volume could be identified through a small amount of additional modelling by the ESO that would provide a risk based assessment given prevailing conditions at the time and the “strength” of a particular part of the network. It is understood that this approach is already used for taking circuit outages etc. It could therefore be possible to follow the same approach for this additional scenario to cover the loss of a generator not meeting FRT requirements as a balance to instructing it off the system.</p>
12	<p>Do you believe that the methodology should apply differently to projects in receipt of an ION or a FON?</p>	<p>No, we believe there shouldn't be a difference. All sites have to demonstrate satisfactory compliance to CC.6.3.2.15/ECC.6.3.15 through simulation prior to first export. Recent system incidents have identified that sites have experienced FRT issues & trips regardless of length of time connected to the system. Therefore on the current wording we do not believe the distinction between ION and FON sites would meet Grid Code Objective (B).</p> <p>To support this distinction in methodology, it would be helpful to see the specific data on FRT non-compliances on sites in receipt of IONs versus sites in receipt of FONs .</p> <p>We believe any limits or proposals should affect all Grid Code Users in the same consistent way because the system impact of a non-compliance against CC/ECC.6.3.15 would be the same regardless of ION or FON status.</p>

13	Should the ESO have the ability to constrain a User suspected of FRT failure ahead of further investigation?	<p>We believe the ESO's ability to constrain a User should only be an option once the facts of the system incident are understood.</p> <p>We support the ESO having the option to constrain a User but only once:</p> <ul style="list-style-type: none"> • the waveform data/discussions indicate that this is an incident of concern and system risk has been identified; and • the fault incident is understood to prevent a "guilty until proven innocent" approach. <p>NGESO have acknowledged in the ESO Transparency Forum (04/08/21) that it can take a number of days for the initial analysis of a system incident to yield whether or not FRT requirements are applicable and the User should be required to meet these requirements. If constraint actions are taken ahead of this initial analysis, there is a risk that the ESO declares a User as non-FRT compliant when the incident would not in fact have required assets to ride through (e.g. 22/07/21). However, timescales are already provided for investigations in CP8 (LON process).</p>
14	In respect of the voltage wave form data, should the Grid Code prescribe or not the format in which that data is to be provided? Please provide your rationale.	If data is to be shared, then we believe the Grid Code should prescribe the format for consistency. Appropriate resolution would need to be agreed.
15	In respect of the constraint limitation to be applied to affected parties, should this be set within a range or a fixed value? If so, what do you believe that to be. Please provide your rationale.	<p>If a limit is to be applied then we believe this should be at a level that reflects the site/system risk following a transparent risk assessment/methodology.</p> <p>We are unsure if the proposal relating to the constraint limitation meets Applicable Grid Code Objective (C). Additional supporting data and methodology on how the MW levels have been arrived at would be required and the assessment outlined on how this reduces the risk sufficiently. If there is no measurable risk reduction then it is unclear if this adds value.</p>

16	<p>Would you agree that a generator should continue to operate if there was a derogation required?</p>	<p>It is assumed that this question refers to a derogation request relating to a non-compliance against FRT.</p> <p>We would assume that whatever operational restriction were assessed as appropriate on an associated LON would remain in force during any derogation application.</p> <p>We believe this should be assessed on a site by site basis (as derogation applications are assessed on a site by site basis). It would be helpful to clarify whether a derogation request against FRT requirements for a site that should meet it would be considered by The Authority & National Grid ESO.</p> <p>Further, we would like to see more clarity around derogation applicability. Specifically, we want to see clarity in the situation where the ESO carries out a system impact assessment as part of the derogation process, and this highlights as a significant risk the severity of the non-compliance to the extent of a severe or total MW curtailment on a LON. Under this situation, it should be clarified if a derogation application would be successful.</p>
17	<p>Do you believe that generators operational history should be taken into account when deciding upon the constraint level whilst an investigation is taking place?</p>	<p>No. All sites have to demonstrate satisfactory compliance to CC.6.3.2.15/ECC.6.3.15 through simulation prior to first export. Recent system incidents have identified that sites have experienced FRT issues & trips regardless of length of time connected to the system.</p> <p>We believe any limits or proposals should affect all Grid Code Users in the same consistent way.</p>
18	<p>Do you have any comments on possible Alternative from the ESO as included in the consultation?</p>	<p>To align with Applicable Grid Code Objective (B) and (C) We believe the ESO's ability to constrain a User should only be an option once the facts of the system incident are understood.</p> <p>We support the ESO having the option to constrain a User but only once the waveform data/discussions indicate that this is an incident of concern and system risk has been identified, and only once the fault incident is understood; this prevents a "guilty until proven innocent" approach.</p> <p>NGESO have acknowledged in the ESO Transparency Forum (04/08/21) that it can take a</p>

		<p>number of days for the initial analysis of a system incident to yield whether or not FRT requirements are applicable and the User should be required to meet these requirements. If constraint actions are taken ahead of this initial analysis, there is a risk that the ESO declares a User as non-FRT compliant when the incident would not in fact have required assets to ride through (e.g. 22/07/21).</p> <p>We believe any constraint limit should be arrived upon following joint discussions between the User and the System Operator and based on a system risk assessment so that this meets the Applicable Grid Code Objectives of (B) and (C).</p> <p>The ESO's current interim process wording on SIRs is direct and generic and should be amended. There are cases where FRT requirements don't apply (e.g. CC/ECC.6.3.15.3) or during abnormal or non secured faults.</p>
19	<p>Do you have any comments on the Strawman document on the FRT process?</p>	<p>We have concerns relating to the wording of the updates to the CC section of the proposed legal text provided with the Strawman. In the revised legal text for CC.6.3.15.1(a)(i)(a) it is required that the design be compliant with faults applied at the Onshore Transmission System operating at Supergrid voltages (at the TIP for offshore PPMs). However CC.6.3.15.1(a)(i)(b) propose that offshore PPMs operate at a different requirement due to the inclusion/specification of "Connection Point" in the text (which would GEP for offshore PPMs) whilst referring to fig CC.6.3.15(a)(i)(a).</p> <p>Clarity here is required as this update of wording appears to be changing the obligations in relation to CC.6.3.15.1 for offshore PPMs from the requirement at present. We do not believe that the additional text for the 1st paragraph of CC.6.3.15.1(a)(i)(b) containing "connection point" is required.</p>

Legal Text