

**Workgroup Consultation Response Proforma****GC0147: Last resort disconnection of Embedded Generation – enduring solution**

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 **27 November 2020**. 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](mailto:Nisar.Ahmed@nationalgrideso.com) or [grid.code@nationalgrideso.com](mailto:grid.code@nationalgrideso.com)

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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 GC0147 Original Proposal better facilitates the Applicable Grid Code Objectives?	Yes, this is an improvement to the original mechanism, which wasn't clear for the DNO or Embedded Generator on how disconnection would be enacted.
2	Do you support the proposed implementation approach?	<p>Yes this is supported subject to comment below on more granular categorisation. Compensation for disconnection is, however, required. A nationally co-ordinated approach is also required, taking into account DNO regions with available Non Synchronous generation rather than applying fixed blocks of MWs to all DNO regions which might compromise the logic for the higher priority given to certain generation including health and safety and environmental reasons.</p> <p>The environmental benefits and environmental and health and safety risks associated with disconnection of Landfill Gas methane management and generation should be recognised and reflected in a categorisation which, if not formally critical national infrastructure, sits below CNI in priority for maintaining connection but in higher priority for connection to high energy users whose disconnection would not have those environmental and health and safety implications. If a 4 tier categorisation is used landfill gas management infrastructure should be placed at the bottom of tier 3 (ie highest priority to maintain connection) and a within-tier prioritisation adopted.</p>
3	Do you have any other comments?	<p>Coordinated National plan required as above to ensure disconnection priority not compromised by local availability of non-synchronous generation and an over-simplistic block allocation of the response requirement by DNO region.</p> <p>We are unclear as to the reference to COVID within level 4 – rather we presume that an enduring solution this might better refer to “Critical DG Services and CNI Sites”</p>
4	Do you wish to raise a Workgroup	No

	Consultation Alternative Request for the Workgroup to consider?	
<b>Specific GC0147 Workgroup Consultation questions</b>		
5	How can it be ensured that all reasonable commercial alternatives have been pursued first before emergency instructions are used as a last resort?	<p>Ensuring compensation for disconnected Generators and an NG-ESO penalty for when GC0147 is used, given intended not to be used and indicates a failing in the design or delivery of the commercial alternatives as part of the permanent solution.</p> <p>There needs to be a clear trigger point, transparency and ex-post accountability that all available commercial options have been fully exhausted prior to GC0147 instruction being actioned.</p>
6	Are there any further alternatives to emergency disconnection that have not been considered?	Yes – with the slow roll out of ancillary services, focus is required in this area to be the primary control.
7	In terms of possible safety implications of disconnection, are there any specific risks in relation to this solution? What is the additional risk?	<p>Disconnection of a Landfill Gas to Energy plant could lead to an environmental breach with the EA and risk to life and health through uncontrolled release of methane and CO<sub>2</sub>.</p> <p>Key additional risks from GC0147 are:</p> <ul style="list-style-type: none"> <li>- absence of notice period of disconnection to enable appropriate planning including reserve power which it is not practicable or economic to maintain for current outage risks</li> <li>- unscheduled disconnection does not enable site attendance for controlled and safe system shut down</li> <li>- absence of planned duration of disconnection presents similar challenge for controlled and safe re-start of system</li> <li>- on-load disconnection risks permanent damage to synchronous generation and risks longer term outage and exacerbation of the environmental and health and safety impacts</li> </ul>
8	How should embedded generators that are not	The true cost of disconnection includes contracted revenues for wholesale power together with

	participants in the balancing mechanism be compensated for emergency control actions including disconnection? Is it your opinion that they should be compensated?	associated renewable and ancillary benefits which should be common across the tiered categories. In addition, for synchronous generation the operational costs from starting and physical damage from on-load tripping should also be compensated. A standard formula could be used for revenue compensation based on market index or regulatory pricing for power and ancillary benefits. A fixed sum/MW installed or recycle share of a penalty for usage may be a practical measure that avoids quantification of loss for individual assets to address the further risk of loss and damage to synchronous generation.
9	What mechanism could compensation be achieved by?	See 8 above
10	Would modifications to any other GB Codes be required? [for example, imbalance and cash-out arrangements in the BSC, arrangements with DNOs, suppliers or embedded generators in the CUSC and DCUSA)	We can not provide detailed comment on the code modifications required. As a principle, the changes should be applied consistently across the codes to ensure equal treatment for distributed generation applying the principles proposed in 8 above
11	Is compensation a requirement of the Clean Energy Package legislation? Please expand where possible on why or why not.	We do not offer a legal view on this question. We believe that compensation should be made on principle whether or not required by the Clean Energy Package.
<b>Form/Implementation of instructions</b>		
12	What form should an instruction take? (eg % or MW; registered capacity or active power output)	<p>See above for key requirement for a nationally co-ordinated plan rather than a localised instruction which may risk the disconnection of priority or critical infrastructure purely as a function of the low level of non-synchronous capacity (installed or actively outputting) in that region.</p> <p>Active power output as a reference point appears consistent with a smarter disconnection system design which reflects an understanding of the level</p>

		of non-synchronous generation operational on the system and ability to deliver the response required without compromising the reasons for designating synchronous plant and CNI with higher priority against disconnection. This seems more important than whether a MW or %age is used.
13	What priority order should generators reasonably be disconnected in? Have a link in the report to the guidance note on priority order.	<p>Non-synchronous generation should rightly be given lower priority against disconnection, subject to principles of compensation set out in 8 above.</p> <p>See 2 above for specific comment on categorisation of landfill gas capture and generation infrastructure.</p>
14	What arrangements are necessary for restoration?	Prior to restoration the ESO/DNO will need to contact the generator to agree timing.
15	How much of the detail of how an instruction should be implemented needs to be codified rather than in a guidance document?	<p>We need to be careful as guidance is very much down to interpretation, which creates ambiguity.</p> <p>The core framework, how to apply the needed reduction, compensation and penalties should be codified.</p> <p>Guidance can then be based around those key areas</p>
<b>Legal Text</b>		
16	Do you agree with the proposed Grid Code legal text? Please provide the rationale for your response and any specific comments.	We do not have any specific drafting comments with the text proposed. Consistent with 15 above and given the importance of these principles (and to ensure that they are never required in practice) the core framework, how the tiered disconnection process will be applied, compensation and penalties should be codified in other applicable industry codes or regulatory documents if not in the Grid Code.