

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 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 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 | | |
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| 1 | Do you believe that the GC0147 Original Proposal better facilitates the Applicable Grid Code Objectives? | <p>We believe that this Grid Code modification in its current format does not better facilitate objectives (b) and (c). The Original Proposal does not include the provision of compensation for curtailed embedded generation, nor does it provide assurances that embedded generation will only be curtailed by the system operator after all market-based resources have been used.</p> <p>These and other outstanding issues discussed by the Workgroup may well have to be resolved outside of the Grid Code. These issues, including compensation, need to be part of the overall solution.</p> <p>We believe that once this modification is accompanied by solutions that address these points, then objectives (b) and (c) will be better facilitated.</p> <p>This code modification will better meet objectives (a), (d) and (e) of the Grid Code as it will clarify arrangements and will better enable the security of the system.</p> |
| 2 | Do you support the proposed implementation approach? | <p>The implementation approach needs to ensure that appropriate solutions are found to the issue of compensation, and other matters raised by Workgroup members, to coincide with the implementation date.</p> <p>It is important there is a detailed mechanism set out on compensation in order to support investment confidence – noting that investment in new embedded generation will be supporting the UK's transition to net zero.</p> |
| 3 | Do you have any other comments? | <p>The future role of ODFM in 2021 needs to be clarified in parallel with the GC0147 modification. This code modification should consider future negative reserve services which arise out of the ESO's Reserve Reform.</p> |
| 4 | Do you wish to raise a Workgroup Consultation Alternative Request for | <p>We are not submitting a Workgroup Consultation Alternative Request, but if the Proposer does not intend to amend the Original Proposal to address the Workgroup Considerations cited in the</p> |

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| | the Workgroup to consider? | consultation, we would support one being raised by Workgroup members. |
| Specific GC0147 Workgroup Consultation questions | | |
| 5 | How can it be ensured that all reasonable commercial alternatives have been pursued first before emergency instructions are used as a last resort? | The best way to ensure all commercial alternatives have been pursued before emergency disconnection is by the ESO delivering a robust set of commercial products – such as an updated ODFM product – which enable participation from the maximum number of market participants. |
| 6 | Are there any further alternatives to emergency disconnection that have not been considered? | No – the focus should be on getting the best range of commercial alternatives so that emergency disconnection is not needed. |
| 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>We have several installations where the generator provides heat to key processes on our customers sites e.g. hospital heating. In the event the asset is switched off, this would lead to a drop in the supply of heat to hospital wards, theatres etc. This could cause risk to patients. We would prefer CNI and sites supporting the COVID response to be out of scope – it is not sufficient to just say that CNI sites are “never envisaged to be selected” because the possibility remains that they could be.</p> <p>We would also want to understand how these requests would be deployed on other sites with associated demand. On these sites, a quick shutdown without adequate advance notice could cause disruption in industrial processes where our customers may be required to change processes to ensure electricity supplies are not affected.</p> <p>It needs to be made 100% clear to embedded generation owners and operators if they could be impacted by this and what the processes are for disconnection and re-connection.</p> <p>The principles behind the merit order for disconnection must be transparent. The principles in the ENA’s joint ESO/DNO guidance issued following the approval of GC0143 (the temporary arrangements that this mod seeks to find an enduring solution to) could be used as a basis.</p> |

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| 8 | <p>How should embedded generators that are not participants in the balancing mechanism be compensated for emergency control actions including disconnection? Is it your opinion that they should be compensated?</p> | <p>We believe that all embedded generators curtailed due to emergency control action must be compensated.</p> <p>The compensation ‘price’ could be structured in several ways.</p> <p>There must be reasonable compensation for emergency disconnection and this needs to incentivise all parties to support the use and exhaustion of commercial options beforehand.</p> <p>We believe compensation should be set sufficiently below the market price to encourage embedded generation to participate in the replacement to ODFM.</p> <p>However, this needs to be combined with sufficient binding obligations on the ESO so that if the ESO fails to take available commercial options beforehand and the priority order is not applied correctly, then the net effect is that using emergency disconnection is financially more expensive to the ESO.</p> <p>As noted in our response to Q13 on the priority of disconnection – the cost of emergency disconnection for some customer groups could far outweigh any conceivable compensation.</p> |
| 9 | <p>What mechanism could compensation be achieved by?</p> | <p>We understand this question to be about how compensation payments are provided to curtailed generators.</p> <p>We believe that either the ESO or the DNO should proactively provide payment to impacted generation. We prefer direct payment over requiring the generator to submit a claim to the ESO or DNO.</p> <p>We support the ADE’s proposal that GC0147 should result in the Grid Code including a reference to compensation so that this is made binding, even if the detail needs to be set out in a linked CUSC or DCUSA modification.</p> |

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| 1 0 | 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) | <p>We understand that modifications may be required to DCUSA, CUSC and the BSC to cover compensation and imbalance.</p> <p>Changes may also be needed to the ESO Standard Contract Terms so that market participants are not unduly penalised if they fail to provide a service to the ESO because they have been disconnected.</p> |
| 1 1 | Is compensation a requirement of the Clean Energy Package legislation? Please expand where possible on why or why not. | Yes – we believe that the CEP Electricity Regulation is clear that compensation is required in this situation. We have not seen any text in the CEP justifying an exemption from compensation. |
| Form/Implementation of instructions | | |
| 1 2 | What form should an instruction take? (eg % or MW; registered capacity or active power output) | |
| 1 3 | What priority order should generators reasonably be disconnected in? Have a link in the report to the guidance note on priority order. | <p>The principles in the ENA’s joint ESO/DNO guidance issued following the approval of GC0143 could be used as a starting point i.e.</p> <ol style="list-style-type: none"> 1. Non-synchronous generation 2. Synchronous generation without any associated demand 3. Synchronous generators with associated demand e.g. industrial facilities with substantial on-site demand. 4. Critical Distributed Generation supporting Critical National Infrastructure (CNI) sites and sites involved in the COVID recovery. <p>The legal text currently says that generation in order category 4 is “never envisaged to be selected”. Given the safety concerns associated with sites like hospitals, we believe this category should be entirely out of scope of this modification.</p> <p>The latter would not prevent CNI sites from voluntarily entering commercial markets for downward flexibility if they had processes in place to participate in these. It would also be helpful if certain types of sites were explicitly listed as being “COVID response supporting and CNI sites” on an</p> |

“including but without limitation” basis so that there is clarity on the scope of that category.

Prioritisation should also take account of generation size for the reasons set out below.

- The priority order should take account of the costs incurred by generators in making this response available. We are concerned that the cost of emergency disconnection for some customer groups could far outweigh any conceivable compensation.
- Prioritisation should be based on generation size, alongside the existing GC0143 guidance.
- Inherently infrastructure to disconnect larger generators delivers more response for less cost. We can see evidence of this from the existing flexible connection arrangements, such as Active Network Management (ANM), currently used by DNOs. ANM costs are disproportionate for smaller generators: we routinely see five figure costs for these systems which must be funded by the generator and can make projects unviable especially at <1MW.
- Unless this size/cost challenge is reflected in the proposal it could lead to substantial asset investment in a system, which is never used, to shed load from many thousand small generators. This would be counter to the principles in OC6B 6.1 (a) and (b) – but the size aspect needs to be made more explicit.
- Therefore, the legal text and/or guidance should include a minimum generator size, below which it is not cost effective to curtail. We would suggest aligning that floor to either Type C or Type D generators for consistency with other connection requirements.

We welcome generators co-located with load being placed towards the bottom of the priority list, because of the additional cost and other practical implications of curtailing generation linked to industrial processes at short notice (as noted in our response to Q7 on safety.) Also, if disconnection of co-located generation leads the co-located industrial demand to shut down it could exacerbate the low demand issue!

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| 1 4 | What arrangements are necessary for restoration? | <p>This modification needs to recognise that restoration of generation may take some time. The ESO and DNOs may need to plan for these assets not being available to the system in the periods following disconnection.</p> <p>DNOs will need to engage with generation if GC0147 is approved on the detailed arrangements for restoration. All parties will need to be clear beforehand how this will be managed and what information will be provided to generation, suppliers and aggregators before and after disconnection.</p> |
| 1 5 | How much of the detail of how an instruction should be implemented needs to be codified rather than in a guidance document? | We are open to the principles on how an instruction should be implemented being codified and the detail provided in a guidance document, if there is a robust process for consulting stakeholders on the guidance. This is because of the time it takes to amend industry codes. |
| Legal Text | | |
| 1 6 | Do you agree with the proposed Grid Code legal text? Please provide the rationale for your response and any specific comments. | We would accept the Grid Code text conditional on acceptable industry arrangements on compensation being implemented in the same timescale.. |