

**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.**

<b>Standard Workgroup Consultation questions</b>		
1	Do you believe that the GC0147 Original Proposal better facilitates the Applicable Grid Code Objectives?	Yes, in line with the proposer's assessment.
2	Do you support the proposed implementation approach?	Yes, however it is not clear that all DNOs will have the same capabilities to remotely switch off distributed embedded generation.
3	Do you have any other comments?	<p>There should be a requirement for a report following the usage of the proposed solution, providing at least a minimum of detail in advance of any Ofgem request for a full incident report.</p> <p>This could include the actions taken up to this point before activation of the embedded generation disconnections and the number and generating power removed from the system at that time.</p>
4	Do you wish to raise a Workgroup Consultation Alternative Request for the Workgroup to consider?	Not currently.
<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>NGESO needs to ensure that all other commercial alternatives have been exhausted through all balancing services, including but not limited to commercially available SO_SO trades with interconnectors.</p> <p>As mentioned in response 3 above, pre and post event reports should be made available in the event of emergency instructors to show that all alternatives to emergency disconnection were taken into consideration by NGESO. Pre and post event reporting are necessary for transparency since emergency disconnection could have a significant detrimental impact on generators.</p> <p>SPR would like to highlight that during the ODFM service experience, it was difficult to both interpret market data once the service was requested and</p>

		<p>understand the sequence of steps NGESO took to resolve the system stress issues.</p> <p>SPR believe market warning messages (an opposite to the energy margin warning) could be also a useful tool to ensure market participants awareness and alignment with system requirements.</p>
6	Are there any further alternatives to emergency disconnection that have not been considered?	SPR suggest the implementation of schemes such as Active Network Management/Load Managements schemes which if implemented properly should give the flexibility that the network needs. In addition to the suggestion in response 5 above.
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>SPR do not believe emergency trips of generators by the DNO present any increased safety risk as this type of disconnection put much more less stress on electrical plant compared to a fault on the DNO's network causing us to lose supply.</p> <p>SPR design and construct our generating plants with this ever-present risk. Notwithstanding that should the activation of this last resort service be a regular occurrence, SPR could foresee damage to our main generating equipment as they are only designed for a life time number of grid trips.</p>
8	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>SPR believe that some form of compensation should exist for disconnecting generators given an emergency instruction. Existing mechanisms at transmission level to deal with similar system stress situations such as operational intertrips (where generators get paid for the numbers of times generation is disconnected instantaneously), could be a solution not only operationally but commercially.</p> <p>However, SPR believe that any arrangements to compensate for emergency control actions, including disconnection, should not de-incentivised embedded generation to participate in the Balancing Mechanism.</p>
9	What mechanism could compensation be achieved by?	<p>There are already existing references of mechanisms for compensation based on fixed rates or imbalance prices for compensating different types of disconnection such as operational intertrips, interruptions due to planned/unplanned outages, and partial or total shutdowns.</p> <p>However, as indicated in response to question 8 above, compensation should not discourage</p>

		generators to explore and pursue options to enter the balancing mechanism,
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)	SPR believe it would be necessary for the BSC to be reviewed to reflect considerations on where these compensation costs should be included (e.g. imbalance costs, cash out prices, etc.)
11	Is compensation a requirement of the Clean Energy Package legislation? Please expand where possible on why or why not.	<p>The introduction of this new mechanism is a material change. One issue raised in the workgroup consultation is whether the disconnection mechanism can operate without compensation to embedded generators.</p> <p>It is unlawful to introduce and operate such a mechanism without putting in place appropriate market-based structures and ensuring that compensation is payable. In particular SPR would note the following.</p> <p>Redispatch' is defined in the Energy Regulation at Article 2 (26) as meaning: "a measure, including curtailment, that is activated by one or more transmission system operators or distribution system operators by altering the generation, load pattern, or both, in order to change physical flows in the electricity system and relieve a physical congestion or otherwise ensure system security;" (Emphasis added)</p> <p>Nothing in the definition restricts the definition of Redispatch by excluding disconnection. The definition simply refers to a measure (non-exhaustive) activated by TSOs or DNOs to alter generation, load pattern or both. Disconnection will clearly alter the generation pattern and change physical flows in the electricity system. Disconnection is a Redispatching action that a TSO/DNO could take within the meaning of the Energy Regulation.</p> <p>Article 13(1) says "The redispatching of generation and redispatching of demand response shall be based on objective, transparent and non-discriminatory criteria."</p>

A disconnection regime which involves embedded generators being disconnected without compensation is discriminatory and therefore unlawful. The entire thrust of the provision is that redispatch should be open to all market participants. Article 13(2) says:

“The resources that are redispatched shall be selected from among generating facilities, energy storage or demand response using market-based mechanisms and shall be financially compensated. Balancing energy bids used for redispatching shall not set the balancing energy price.”

The provision is entirely clear in not drawing an artificial distinction between transmission connected market participants and other market participants. Such a distinction cannot amount to an objective justification for a lack of compensation. Nor can the provision be applied using a “traditional” interpretation of dispatch, in the sense of e.g. dispatch under the pre NETA Pool system. That would be contrary to the purpose of the Electricity Regulation.

Article 13 is clear that both DSOs and TSOs have a role in this area (See e.g. Article 13(5)). Further, the definition of Redispatch is clear that a measure can be activated by a TSO or a DSO. In the case of the proposed disconnection regime the disconnection would arise, practically when activated by the TSO and DSO.

Article 13(7) of the Regulation states that where non-market redispatching is used, compensation is to be paid by the system operator requesting the redispatching to the operator of the redispatched generation.

There is one relevant exclusion, for cases where a producer has “accepted a connection agreement under which there is no guarantee of firm delivery of energy.”

In order to identify whether a producer has “accepted a connection agreement under which there is no guarantee of firm delivery of energy” it will be necessary to review the individual connection agreement with the generator.

It is not possible to e.g. generalise based on the National Terms of Connection.

The precise provisions will have to be interpreted in accordance with principles of contractual interpretation. Wider background will likely be of very

		<p>material relevance here. As an example, the commercial context will be material. This is particularly the case in this context where the connection agreement must be placed in a complex wider context. All the terms, express and implied will have to be considered.</p> <p>Properly understood, very few connection agreements will have “no guarantee of firm delivery of energy”. Generators do not typically enter into connection agreements without having established with the DNO a clear understanding of availability. SPR see this exception as being of very limited application (if any).</p> <p><b>Non-discrimination</b></p> <p>SPR do not see how non-compensation for embedded generation is compatible with network operators’ duties of non-discrimination as set out in their licences.</p> <p><b>Wider legal duties</b></p> <p>Section 9(2) of the Electricity Act 1989 imposes a general duty on transmission and distribution licence holders to facilitate competition in the supply and generation of electricity. Non-compensation for embedded generation is inconsistent with this. It would place embedded generators at a disadvantage. SPR cannot identify an objective justification for disconnection without compensation in this context.</p>
<b>Form/Implementation of instructions</b>		
12	What form should an instruction take? (eg % or MW; registered capacity or active power output)	SPR believe that the instruction should be given as a MW reduction in active power output (as per workgroup discussion), this would mean that DNOs would proceed down their list of sites until their required reduced MW exchange is reached.
13	What priority order should generators reasonably be disconnected in? Have a link in the report to the guidance note on priority order.	SPR believes that any generator holding a contract providing network support services to NGENSO should be exempt or at the bottom of the list for disconnection, as NGENSO either can reduce through the BM the unit’s output or have identified some other purpose for the unit (e.g. reactive power services from distribution to transmission). The DNO will need to be aware of all these contracts when putting together their priority list. The priority list included in the legal text only refer to inertia services. This priority list should include other ancillary services and should depend on the area where these services are required.

		<p>.</p> <p>The DNOs will need to be kept informed of any changes to contracts to ensure that the Control Room/ Operations can update their priority list, e.g. units join the BM or leave the BM – this may not necessarily be captured by the DNO’s operational teams and only commercial teams may know about it.</p> <p>SPR understand that NGENSO from a system security point would prefer units that do not provide system support (including inherent inertia or short circuit infeed) to be disconnected first</p>
14	What arrangements are necessary for restoration?	<p>SPR embedded wind farms are designed such that following voltage restoration after a grid trip, SPR will automatically re-connect and start up generation (this will also depend on the length of the disconnection as wind turbines may need time to come back online); however, it would be good practice and useful for SPR’s control rooms to be informed in advance of any re-energisation for more efficient operation. For a limited number of SPR’s sites we may require site attendance following a phone call from the DNO to notify SPR that the connection is live again.</p>
15	How much of the detail of how an instruction should be implemented needs to be codified rather than in a guidance document?	<p>All detail of an emergency instruction should be codified as a guidance note can be interpreted as not legally binding unlike the Grid Code.</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.	<p>No specific comments</p>