Code Administrator 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 **1 March 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

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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 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 or WAGCM1-	**The Original is the ESO's preferred solution, followed by WAGCM2 as a second option.**

	7 better facilitates the Applicable Objectives?	WAGCM1 and WAGCMs 3-7 do not better facilitate the Applicable Objectives as they either a) require compensation to be paid, b) require ODFM to be developed before emergency disconnection can be implemented, or both. **A last resort tool is critical, but likely to be used extremely rarely, if at all.** A 'last resort' situation in which the ESO completely ran out of commercial alternatives to having to instruct DNOs to carry out emergency disconnections (or turndown of generation if time allowed) would be expected to occur with no more frequency than demand disconnections, so perhaps a 1 in 10-year risk at most. However, it is a critical final tool for the ESO to avert disruption to all users and needs to be clear and unambiguous. The Original and WAGCMs 1&2 achieve a usable solution and therefore fulfil the main requirement of the modification, Grid Code objective (c), by enhancing system security. WAGCMs 3-7 are unimplementable for the reasons set out in answer to the implementation question below and therefore are negative against this objective as they will not deliver a usable 'last resort' solution. **Emergency disconnection would only be used in an emergency and after all viable commercial options have been exhausted.** As a 'last resort', use of this type of emergency instruction is not intended to be a commercial action and would only be taken once all viable commercial options had been exhausted, first as commercial actions are easier to instruct and with a more assured result but also as they are more acceptable to stakeholders. Much more detail has been added to this enduring solution to minimise the impact and risk to stakeholders, to keep them better informed, and to prioritise keeping plant with serious or complex concerns connected. **Compensation would go against the 'last resort' principle and is not a requirement of the Clean Energy Package.** Compensation is not an appropriate part of the modification as it is against the principle of the 'last resort' which is not a commercial mechanism; demand disconnection which is a long-standing last

		resort action at the other end of the scale when there is not enough generation does not link to any specific compensation arrangements. In either case, the rarity with which a last resort might occur means that any impact on stakeholders is minimal. Compensation is also not a requirement of the Clean Energy Package (art 13.7) which states that: *'7. Where non-market based redispatching is used, it shall be subject to financial compensation by the system operator requesting the redispatching to the operator of the redispatched generation, energy storage or demand response facility except in the case of producers that have accepted a connection agreement under which there is no guarantee of firm delivery of energy.'* Embedded generators that have chosen not to participate in the balancing mechanism do not have connection agreements with the ESO and do not have the firm access rights to the system that would be conferred with these. The DNO connection agreements that they hold are interruptible for a range of reasons as set out in the national standard terms of connection[1]: *5.5 The Company* [meaning the DNO] *may De-energise the Connection Point:* *5.5.1 if it is necessary or reasonable for the Company to do so as part of a System Outage carried out in accordance with its statutory rights and obligations and Good Industry Practice; and* *5.5.2 in order to permit other persons to connect to the Distribution System, in which case, the Company shall give the Customer such notice of the De-Energisation as is required by law (and shall use its reasonable endeavours to provide as long a notice as is practicable).* *5.6 The Company may, at any time without the need to give prior notice to the Customer, De-energise the Connection Point if:* *5.6.1 the Company is instructed or required to do so pursuant to the Act, its Electricity Distribution Licence, any Directive, the CUSC, the BSC, the DCUSA and/or the Electricity Supply Emergency Code (being the code of that name designated by the Secretary of State);*

[1] http://www.connectionterms.co.uk/Schedule%202B%20National%20Terms%20of%20Connection%20v10-min.pdf

		5.6.2 the Company reasonably considers it necessary to do so for safety reasons or for the security of the Distribution System or any other electrical system (including in order to avoid interference with the regularity or efficiency of the Distribution System); A condition of the DNOs' Distribution Licence is compliance with the Grid Code so where an instruction is given to the DNO under the Grid Code this will be covered by clause 5.6.1. Note that there are various other reasons why a DNO may have to de-energise a customer's point of connection, including matters such as safety concerns, 'connect & manage' connections, ANM schemes and equipment outages in general given the more radial nature of distribution systems and the need to balance build and non-build solutions with firmness of access arrangements. For these reasons, the inclusion of compensation as in WAGCM1, and also WAGCMs 3 and 5-7, is not efficient or required and these are therefore negative against objective (d). **Requiring ODFM or similar to always be in place before a 'last resort' action can be legally taken may lead to a situation in which neither is available which is untenable.** WAGCMs 4-7 require ODFM or a similar commercial service to be fully implemented before emergency disconnection arrangements can be used. As detailed in the implementation question below, there is no mechanism to make commercial arrangements in the Grid Code, and it is unclear what the long-term implications are of anchoring the enduring solution for 'last resort' actions to a commercial arrangement that is expected to be temporary. **WAGCM2 is the only one of the alternatives that better facilitates the Applicable Objectives.** WAGCM2 allows a route to reopening of the question about compensation if it turns out that the 'last resort' is used more frequently than envisaged, which could include if the commercial arrangements that should prevent this were to fail. This would give more reassurance to stakeholders, although as in any use of demand disconnection it is expected that last resort actions would be subject to intense

		industry and regulatory scrutiny and would not be undertaken lightly by the ESO. WAGCM2 is therefore neutral against (d), possibly slightly inefficient but mitigated by the reassurance that could be given to stakeholders. The ESO's preference is therefore for one of either the original or, as a second option, WAGCM2. Both are positive against objective (c) in enhancing system security.
2	Do you support the proposed implementation approach?	In terms of the original and WAGCMs 1&2, yes. **WAGCM3 is unusable as there is no mechanism for the compensation it requires.** WAGCM 3, in that it sets out that compensation will be payable by the ESO without establishing a mechanism for this or setting any limit on what can be claimed for, would appear to be unimplementable as it puts in place firm arrangements that do not fall within the scope of the Grid Code. It would also render the 'last resort' action unusable as the ESO does not have sufficient funds to be able to cover what could be a direct and open-ended liability against its bottom line. **WAGCMs 4-7 are unusable due to the requirement to develop ODFM before implementation.** WAGCMs 4-7 are also unachievable as they require ODFM or a similar commercial service to be fully implemented first; it is not clear how this could be linked in the Grid Code which does not include within its scope the terms of commercial agreements. As the Grid Code solution is made on an enduring basis, while commercial arrangements tend by their nature to be temporary and renegotiated when conditions dictate, it is also not clear whether the condition specified in WAGCMs 4-7 could be fulfilled with any enduring future certainty or what the legal situation of the changes made through GC0147 would be at some point in the future if similar commercial arrangements to ODFM were not available. As the ESO has made clear, ODFM is a stopgap solution and since the preferred way of achieving greater controllability of embedded generation is through wider access to the balancing mechanism this is very likely.

		It would also go against the principle of the 'last resort', since by its nature this is a last line of defence that needs to be available in allcircumstances but which is only to be used after any other mechanism has been exhausted.
3	Do you have any other comments?	**This is a last resort mechanism to avoid disruption in extreme circumstances.** The ESO has made clear throughout but it is worth restating that the 'last resort' actions discussed in GC0147 are a final way of avoiding worse disruption for all users when all other commercial means of averting an issue caused by excessive generation on the system have been exhausted. The reason for the requirement for a change to the Grid Code is because of the changes in generation portfolio towards smaller, embedded units leading to reduced volumes of generation that the ESO is able to instruct. Small embedded generators that for commercial or technical reasons choose not to participate in the balancing mechanism are not visible or controllable by the ESO which impacts system security. **Wider access to the BM is the likely longer-term solution.** The longer-term solution to this (although a 'last resort' would still be required) is likely to be reforms leading to wider access to the balancing mechanism for smaller users. A number of initiatives have already been progressed to reduce barriers to entry such as the 'virtual lead party' aggregation arrangements put in place as part of the GC0097[2] TERRE modification, and the amendments to the communications standard finalised in Dec 2020[3] and approved by the Grid Code Panel to allow cheaper participation in the BM through web-based API functionality rather than the historic requirement for dedicated hard-wired links. A Grid Code modification (GC0134[4]) is also currently progressing to remove the 24/7 telephony requirements for

[2] https://www.nationalgrideso.com/industry-information/codes/grid-code/modifications/gc0097-grid-code-processes-supporting-terre
[3] https://www.nationalgrideso.com/document/33331/download
[4] https://www.nationalgrideso.com/industry-information/codes/grid-code-old/modifications/gc0134-removing-telephony-requirements-small

		smaller BM participants again reducing costs and removing a potential barrier to entry. **A new ODFM service is being put in place in 2021 to cover worst-case scenario risks.** As was discussed in the workgroup, the ESO always intended to progress a replacement for ODFM in 2021 if it was clear that this was required. A letter[5] communicating this to industry was sent on 3 Feb 2021 and clarifies that while central forecasts do not indicate a requirement for ODFM, there are credible worst-case scenarios where lower demand periods could be experienced for longer durations requiring additional downwards flexibility and it was therefore considered prudent to bring forward a new ODFM service for 2021 as an insurance policy against this and to mitigate the need for emergency instructions. A one month consultation[6] on the reinstated ODFM terms was commenced on 15 February, running until 15 March 2021, and it is the intention that ODFM will be in place by May. **Compensation arrangements would be complex to achieve and would bring other unintended consequences.** As a final point, compensation arrangements if part of GC0147 would be complex to achieve needing to flow funds from BSUoS to embedded generators via DNOs and would need modifications to the CUSC, DCUSA and BSC to allow this to happen and for the ESO to be able to establish a way of paying for it. How a price would be set is also not straightforward. The complexity, remote likelihood of the use of the last resort, and limited impact on generators is another reason not to pursue it. If compensation were available it would further tend to be a disincentive to participation in ODFM or wider BM access and could be the beginning of further compensation claims for DNO interruptions which would become untenable given the radial and less secure nature of DNO systems and the need to balance build and non-build infrastructure solutions

[5] https://data.nationalgrideso.com/ancillary-services/optional-downward-flexibility-management-odfm1/r/odfm_letter_to_industry_03.02.2021#
[6] https://www.nationalgrideso.com/industry-information/codes/european-network-codes-old/meetings/consultation-open-ebgl-article-18-1

		with the timing and firmness of access arrangements. The ESO noted some Workgroup members' preference that CUSC, BSC and DCUSA modifications should be developed before proceeding to CAC for GC0147. In the ESO's opinion, this was not achievable by May 2021 when the risk of low footroom issues would be greatest and GC0147 was required to be implemented. It would also require a significant amount of work in an already congested codes landscape which, depending on Ofgem's final decision, could prove to be unnecessary. The ESO have raised two alternatives (WAGCMs 1&2) that, if selected, would minimise stakeholder impact by capturing data until compensation arrangements and consequential modifications where necessary could be put in place. Ofgem's guidance to the Workgroup was that GC0147 should proceed without delay as it was required to address a system security issue and that this was the over-riding concern.