

Grid Code Alternative Form

GC0147 Alternative 2: Compensation re-opener for Embedded Generators subject to emergency disconnection

Overview: This alternative sets out that while compensation arrangements are not included in the GC0147 modification, in the very unlikely event that the 'last resort' use of emergency instructions from the ESO as described in the GC0147 original solution occurs more than once in any 12-month period, the question of compensation arrangements would be referred back to the Grid Code Panel for review, including the possible retrospective application of any arrangements subsequently developed.

Proposer: Rob Wilson, NGENSO

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What is the proposed alternative solution?

The proposed solution adds two clauses to the Original Proposal as follows:

BC2.9.2.7 For the avoidance of doubt, in the case of BC2.9.1.2 (f) upon implementation of an **Emergency Instruction** by a **Network Operator** no arrangements for compensation apply. In the event that **Embedded Generation Control** is instructed by **The Company** in relation to more than one event in any 12-month period then **The Company** will refer this to the **Grid Code Review Panel** for their decision on whether compensation arrangements need to be progressed. Where such a decision is sought from the **Grid Code Review Panel** in response to a second event in a 12-month period, any resulting arrangements shall be considered for application to this and any subsequent events in that or a future 12-month period unless ruled otherwise by the **Authority**. The data associated with any such event will be communicated by the **Network Operators** implementing an **Embedded Generation Control** instruction as set out under OC6B.5.11 and will be retained by **The Company** until a final decision is made by the **Grid Code Review Panel** or **Authority**, as the case may be, on compensation arrangements.

OC6B.5.11 Where **Embedded Generation Control** is instructed by **The Company** on more than one occasion during a 12-month period, on the second and any subsequent occasion that it is instructed in that or any future 12-month period, each **Network Operator** will supply to **The Company**:

- a) an estimate of the **Active Power** output reduction achieved, in MW, at the time of implementation for each Power Station where **Embedded Generation Control** is implemented;
- b) the time **Embedded Generation Control** is implemented; and
- c) the time when the **Network Operator** confirms to the **Generator** that they can resume normal operations.

This information shall be supplied within a week of implementing the **Embedded Generation Control Instruction**.

What is the difference between this and the Original Proposal?

The clauses noted above are intended to allow a re-opener for the question of compensation if the use of the emergency instructions described in the modification became a more regular event than is envisaged.

Other than the addition of the clauses above this alternative is identical to the original.

What is the impact of this change?

Compensation has probably been the biggest topic discussed by the workgroup. As the proposer of the original solution for GC0147 National Grid ESO is mindful of the sensitivity of the issue and the need to mitigate business risks for embedded generators, and also the discussion around whether compensation is a requirement of the Clean Energy Package article 13.7.

Whilst it is the ESO's view that compensation is not required by the CEP in the specific circumstances set out within this modification, a factor that requires consideration in making sure that this isn't an unacceptable business risk for embedded generators is how regular an occurrence last resort emergency instructions will be. As set out in the original proposal, the ESO has committed to only invoking the last resort when all possible commercial alternatives have been exhausted. If there were a parallel to the other extreme of network control where demand disconnection could take place as a last resort when all stages of system warning been taken and no further generation is available on the system then this is estimated to be no more than a 1 in 10 year event. In fact, the final system warning of Demand Control Imminent was last used in approximately 2005 and did not result in any disconnections taking place, although limited automatic disconnection of demand did occur in August 2019 due to operation of the Low Frequency Demand Disconnection scheme as an immediate consequence of system events.

As was found in 2020, as long as a sufficient volume of generation is available for the ESO to instruct through a commercial route (in 2020 through ODFM) the last resort of an emergency instruction will not be reached. Ongoing initiatives to widen access to the Balancing Mechanism and allow greater volumes of generation to be instructed through this also make the last resort less likely. However, since the system is changing rapidly, and to try to give stakeholders reassurance, this alternative sets out the necessity for compensation arrangements to be referred back to the Grid Code Panel for review if there is ever more than one event in any 12-month period. For this and any subsequent events Network Operators are required to record and share with the ESO the consequences of their implementation of emergency instructions and, subject to any decision by the Grid Code Review Panel and/or Ofgem as appropriate, any compensation arrangements may also be applicable to these regardless of how long it takes for them to be finalised.

| Proposer's Assessment against Grid Code Objectives | |
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| Relevant Objective | Identified impact |
| (a) To permit the development, maintenance and operation of an efficient, coordinated and economical system for the transmission of electricity | Positive/Negative/None: None |
| (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); | Positive/Negative/None: None |

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| (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; | Positive/Negative/None: Positive |
| (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 | Positive/Negative/None: Negative |
| (e) To promote efficiency in the implementation and administration of the Grid Code arrangements | Positive/Negative/None: None |

As with the original solution, a usable solution in a last resort emergency situation lessens the risk of any impact on security of supply during very low demand periods and has a clear positive impact therefore on objective (c).

By establishing a re-opener for compensation there is a small positive impact on (b) in facilitating competition but since an emergency instruction is a last resort that it is expected will be used seldom if ever, and only on the exhaustion of all commercial alternatives, so the impact to users will be very small.

There is a greater negative impact on (d) as by requiring further arrangements to be codified in the CUSC and DCUSA this is a less efficient solution when there are other mechanisms for compensation (participation in the BM or in any commercial service that may replace ODFM) that it would be preferable to use.

When will this change take place?

Implementation date:

As per original

Implementation approach:

In terms of the differences to the original, following a review of the need for compensation by the Grid Code Panel as described in this alternative, it is possible that further modifications would be required to be made to the CUSC, DCUSA and BSC to detail compensation arrangements. This would be achievable if not straightforward and as set out in this alternative could be applied retrospectively to any applicable previous incidents using the data captured.

Acronyms, key terms and reference material

| Acronym / key term | Meaning |
|--------------------|--|
| ODFM | Optional Downward Flexibility Management |
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