

Grid Code Administrator Consultation Response Proforma

GC0143: 'Last resort disconnection of Embedded Generation'

Industry parties are invited to respond to this Code Administrator Consultation expressing their views and supplying the rationale for those views, particularly in respect of any specific questions detailed below.

Please send your responses by **17:00** on **5 May 2020** to grid.code@nationalgrideso.com. Please note that any responses received after the deadline or sent to a different email address may not be included within the Final Modification Report to the Authority.

Any queries on the content of the consultation should be addressed to Christine Brown at christine.brown1@nationalgrideso.com

These responses will be included within the Draft Grid Code Modification Report to the Grid Code Panel and within the Final Grid Code Modification Report to the Authority.

Respondent:	<i>Grace March</i> Grace.march@sembcorp.com 07554439689
Company Name:	<i>Sembcorp</i>
Please express your views regarding the Code Administrator Consultation, including rationale. (Please include any issues, suggestions or queries)	<p>We are concerned that the Network Operators will not have suitable information when acting upon the Emergency Instructions proposed. Network Operators do not know which Embedded Power Stations may be providing Ancillary Services to the Company. If disconnected, those stations would no longer be providing the Ancillary Service the Company requires, thus reducing system operational security. It will also leave those providers in an uncertain legal and financial position, in that they have received conflicting instructions from the ESO.</p> <p>We do not believe that Network Operators have the visibility of embedded generation operational capacity to ensure the anticipated response. For example, it is possible that the Network Operator disconnects capacity that was not in use, and therefore achieves no change.</p> <p>Some Embedded Power Stations have entered into the Balancing Mechanism as BMUs, and so will</p>

desynchronise when instructed under the existing process. If the Network Operator does not realise this, the instruction to disconnect will not provide the anticipated response. If the Network Operator disconnects a BMU that was not instructed to desynchronise, this could heighten operational issues for the System Operator. The Network Operator cannot necessarily know which Stations are BMUs, so this scenario is a very real risk.

It is not clear who would be held responsible if these Emergency Instructions are issued but no change in demand is seen. Operators of Embedded Power Stations are not signatories of the Grid Code.

There needs to be a robust information exchange between the Company and Network Operators to ensure these Instructions have the desired effect, and suitable information can be accessed efficiently and within real-time emergency constraints. For instance, the ESO knows the assets that form an Aggregated BMU but may not be able to access that information and inform the Network Operator in time to prevent ineffectual disconnections.

We therefore have grave concerns over Network Operators making the decision how to reduce Embedded Generation, as we do not believe they have enough information to create the desired change in demand.

In practical terms, it is clear from the legal text that Network Operators are not to reconnect the Power Stations or capacity until instructed, but Embedded Power Stations will not know whether the disconnection is a trip or a purposeful action by the Network Operator. Without communication from the DNO, and confirmation that the disconnection was due to an Emergency Instruction, most users would attempt to restore the connection, thus limiting the effectiveness of the instruction and risking the Network Operators being non-compliant with the Grid Code. A “hard trip”, tripping the main breaker, would remove that risk but is awkward to reverse, often involving a physical site visit. The attendant delay will further penalise the Embedded Power Station, even after the emergency need for disconnection has passed.

We are also concerned that Embedded Power Stations have no protection, either financially or legally, for the short position resulting from disconnection. This modification therefore shifts the risk described,

	<p>currently on the Network Operators, to operators of Embedded Power Stations. The financial risk of being short or failing to provide Ancillary Services as contracted could be material. There was discussion of an accompanying BSC Modification that may have addressed the ramifications of a short position for suppliers, but no such Modification has been raised.</p> <p>The inclusion of a sunset clause is vital and recognises that the proposed solution is not suitable for anything other than short-term. We are however, concerned that this immediate-term solution will lessen the urgency for an enduring solution and will be applied in future years, thus becoming the “default” solution on an on-going basis.</p> <p>As this process carries significant risk, both of being less effective than anticipated for the reasons stated above, and also opening Embedded Power Stations up to considerable financial risk, it is vital that the Company and Network Operators are held to account if it is used. We would like the Company to publish a report, as soon as practically possible, describing what actions were taken before reaching this “last resort”. The onus should be on the Company to prove this process was necessary and on the Network Operators to illustrate they enabled the anticipated response.</p> <p>Whilst it is not in the scope of this Grid Modification, we would ask Network Operators to consider publishing a methodology of how they would select suitable capacity, including their visibility of Behind the Meter generation (which would not be subject to these instructions, but would still affect the demand response).</p>
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Code Administrator Consultation questions

Q	Question	Response
1	<p>Do you believe GC0143 better facilitates the Grid Code Objectives? Please include your reasoning.</p>	<p>This modification is a very short-term, and possibly ineffective, solution to a wider problem.</p> <p>There are several reasons why we think the proposed solution may not be as effective as the Company or Network Operators may assume. DNOs do not have visibility of the operational status of Embedded Power Stations, and therefore may disconnect capacity that is not being used. Embedded Power Stations may not have been exporting due to market conditions, having received an Instruction already through the BM, or may not realise the disconnection was intentional and attempt to reconnect. There is possibility that Embedded Power Stations providing Ancillary Services, such as frequency control, are disconnected, so reducing system stability.</p> <p>This solution widens the distortion between Power Stations operating in the Balancing Mechanism, as they will be compensated and protected from the ramifications of a short position, whereas Embedded Generation will be exposed. It also creates a distortion between Behind the Meter Generation and Embedded Generation, in that BTM generation cannot be given a similar instruction.</p> <p>The speed of this modification's progression raises the possibility that not all circumstances have been thought through, and there is potential for unintended results: most alarmingly, that the anticipated response does not appear. We also have concerns that the consultation has not been thorough, as Embedded Generators do not have to be signatories of the Grid Code, yet this may materially affect their operation.</p> <p>The Company should have the obligation to justify the use of these Emergency Instructions as soon as possible after the event, so Embedded Power Stations can be confident the actions of the Company and Network Operators were necessary</p>

Q	Question	Response
2	Do you support the proposed implementation approach?	<p>Yes.</p> <p>We agree that the Bank Holiday weekend is likely to present the Company with challenges in managing the system. The proposed solution is not fully thought through and therefore is unsuitable as an on-going solution. The inclusion of the sunset clause is vital. However, we are concerned that should similar periods of low demand and high embedded generation (e.g. solar) be predicted, this stop-gap solution will be proposed again and become the “default” enduring process. We therefore would ask for discussions on an enduring solution to begin as soon as possible.</p>
3	Do you have any other comments in relation to GC0143?	<p>Should these Emergency Instructions be used, it is vital that the Company communicate as much as possible to the industry, as close to real time as possible. Modifications were raised after the incident on 9th August 2019, to address communications issues with the industry, but these are not in place yet.</p> <p>Embedded Power Stations will not be protected, financially or legally, from the consequences of forced disconnection. Clear information from the Company or the Network Operators will allow operators of Embedded Power Stations to act in an appropriate manner to support system security.</p>