

## 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](mailto: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](mailto: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.

<b>Respondent:</b>	<i>Eléonore Soubeyran</i> <i>Policy and Parliamentary Affairs Officer</i> <i>e-soubeyran@esauk.org</i>
<b>Company Name:</b>	<i>Environmental Services Association</i>
<b>Please express your views regarding the Code Administrator Consultation, including rationale.</b> <b>(Please include any issues, suggestions or queries)</b>	<i>The Environmental Services Association (ESA) is the trade association which represents the UK's waste management and secondary resources industry.</i>  <i>Our member companies are helping the UK move towards a more circular economy by collecting, sorting, and treating waste to recover materials and energy, while protecting the environment and human health. The waste and resource management industry generates 13.874 GWh per year of electricity through Energy from Waste (EfW), landfill gas to energy and Anaerobic Digestion (AD), providing 9% of the UK's renewable electricity.</i>  <i>By recovering energy from material that would otherwise be wasted, waste-fuelled energy generation not only generates low-carbon electricity that helps the UK to reduce its greenhouse gases emissions, but it also provides an essential sanitary service which safeguards public health.</i>  <i>ESA welcomes the opportunity to respond to the Grid</i>

	<i>Code Administrator Consultation. We would like to raise our members' concerns on the GC143 modification of the Grid Code that would allow the last resort disconnection of Embedded Generation.</i>
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### Code Administrator Consultation questions

Q	Question	Response
1	<b>Do you believe GC0143 better facilitates the Grid Code Objectives? Please include your reasoning.</b>	<p>No. ESA believes that the proposal poses a significant risk and disconnection of Embedded Generation should be carried out in a fashion that considers all forms of generation at all levels and based upon their security of supply position rather than the level of connection.</p> <p>In line with the Applicable Code Objective c), those providing the greatest level of security supply, such as waste-fuelled energy generation facilities, should be the last to be disconnected.</p> <p>Moreover, in a context of environmental and climate emergency, turning off renewable sources of electricity to support fossil-fuelled baseload generation seems like a rather questionable decision.</p>
2	<b>Do you support the proposed implementation approach?</b>	<p>No, ESA believes that the proposed implementation approach poses significant economic risks for the waste and resources industry, along with significant public health and environmental risks for society.</p> <p><b><u>Commercial risk</u></b></p> <p>The proposal represents a significant commercial risk for these facilities as section 6 implies that an embedded generator that is switched off through this mechanism will not be compensated, unlike larger plants that received curtailment payments.</p> <p><b><u>Risks for EfW facilities</u></b></p> <p>We are concerned that an unplanned disconnection of the site from the distribution network can cause a site blackout, which may be restored in seconds, minutes, or take several hours depending on many factors. Any blackout will cause an unplanned shutdown of the boilers and is likely to result in a period of increased emissions of CO, TOC, and dioxins and furans while waste burns on the grate without sufficient</p>

Q	Question	Response
		<p>air for complete combustion.</p> <p>Moreover, disconnection of EfW plants could cause those plants to enter a heightened level of instability, the possibility of having to operate at reduced load and therefore be unable to burn as much waste placing Public Health at risk. Further, as the plants operate in a similar fashion to conventional plant generation plant, EfW provide the opportunity for the distribution network operators (DNOs) to regulate system voltage in local networks in a similar fashion to that of the Transmission connected larger generators, therefore providing greater stability to the grid.</p> <p>Taking instability as an example dependent upon how the plants were disconnected, this would cause the plants to either dump steam quickly or in a more measured fashion, to its condensing mechanism. The quicker this happens the greater the risk of tripping the plant, which in turn stops the combustion. Again, both operating at this level and with quick disconnection heighten the risk of potential failure of the plant due to the “shock to the system” which could result in the plants requiring significant maintenance intervention and unplanned shutdowns for periods of time.</p> <p>The knock-on effect from this is that waste would have to be diverted placing Public Health at risk, ultimately to landfill, placing significant stress on the system of collection and transfer of material as well as a significant cost and negative environmental outcomes.</p> <p><b><u>Risks for landfill and AD facilities</u></b></p> <p>Landfill gas and AD engines not only provide baseload renewable power generation but also provide effective environmental control of landfill gas. If engines are disconnected from the grid, then there is generally limited ability to use the power on-site, forcing sites to flare landfill gas, that is, to burn landfill gas in order to dispose of it. Not only would this have environmentally negative consequences as flaring releases methane and contributes directly to global warming, but this would also be economically harmful to the waste</p>

Q	Question	Response
		<p>sector, which is already affected by the effects of the economic downturn on waste inputs and revenue.</p> <p>In some instances, the switch between power generation and flaring could require an engineer to visit the site to supervise the transition, even if there is a central control room managing the engines. Therefore, the degree of notice provided to the engine operator could affect the operator's ability to manage environmental control.</p> <p>Any crude switching that would affect the ability of the site to import power to run ancillary equipment such as switches, blowers and flares could damage operators' ability to control landfill gas. Most, if not all, sites have emergency standby diesel generators. It is however difficult to justify using diesel engines to power flares to dispose of renewable landfill gas that operators could instead be used for low-carbon power generation.</p> <p>AD would have the ability to slow the digestion process but not instantaneously (several hours to days) so it would have to flare any gas produced.</p>
3	<b>Do you have any other comments in relation to GC0143?</b>	No.