



REA Response to National Grid ESO Consultation on Urgent Grid Code Modification

Introduction & Context

The REA is the largest trade organisation for the UK renewable energy and clean technology sectors, representing around 550 organisations involved in the market in some way, from technology developers, manufacturers and installers to consultancies and academic institutions.

Response to Consultation Proposals

These are clearly exceptional circumstances, and we completely understand the need for this modification. Our members would never want to disrupt the safe operation of the system and we do understand through further discussions that this is intended to be used only in the rarest of circumstances. The enduring system for after the Code modification expires in October 2020 will be of considerable interest to the sector and offers the chance to put in place a fair compensation mechanism as an absolute necessity.

However as previously communicated, our members are rightly very concerned about the lack of compensation for plants switched off, and by the possible implications on some sites.

We would also re-state that we have spoken to BEIS and other bodies and will be sending a joint letter to Ofgem cc the ESO, shortly.

Need for public document stating rarity of the measure's use

We are aware of the timelines, however we **strongly request some public acknowledgement of the rarity with which this would be used and the circumstances it might come into operation under, as soon as possible** – further feedback from a range of generation, supplier and finance members has reinforced the importance of this. This will provide greater clarity to the industry on the matter and importantly, to the finance community as well.

We are not tied to a particular format for this, but suggest an Open Letter would be one such tool.

Difficulty in disconnecting certain (fuelled) generation types

We understand that the Grid Code does not include a provision for demand ordering, because in effect, ESO are issuing an instruction to the Distribution Network Operator to instruct off a volume of Embedded Generation, not directly to them.

We understand that ultimately, it is up to the DNOs to decide what and in what order certain generators are taken off, but have provided some text below on this vital issue for awareness, that we are also communicating to the DNOs and ENA.

Landfill gas generating capacity should not be ordered to disconnect under any circumstances, due to environmental and health and safety considerations. Landfill gas is a mixture of methane (which is explosive) carbon dioxide and a number of other trace gases, which would pose health and odour risks if not managed in accordance with sites' environmental permits. Furthermore the majority of sites are not manned, and could not be shut down safely in the required timescales. Sewage gas generation should not be disconnected for the same reason.

Other waste-related thermal technologies are in a similar albeit worse position, and risk breaching their environmental permits. These plants (energy from waste plants, biomass, anaerobic digestion) if shut down, would mean that their feedstocks would not be dealt with, resulting in disruption to waste management processes and logistics within parts of the food industry.

An unplanned disconnection of a thermal site from the distribution network will cause a site blackout, which may take several hours to restore. 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 air for complete combustion.

Such a disconnection could cause those plants to enter a heightened level of instability, with the increased risk of having to be offline for an extended period (due to the impacts of the thermal shock) and/or to operate at reduced load, with knock-on effects on the food supply chain and waste management processes.

Specifically, 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 condenser. The quicker this happens the greater the risk of tripping the plant which in turn stops the combustion. Again, operating at full load followed by immediate disconnection heightens 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 a significant period of time with potential for permanent damage to critical plant such as turbine and associated gearboxes.