

Winter Preparedness: ENA DNO and Generator Call – 27

January

This document covers Electricity Distribution Network Operators (DNO) emergency connection arrangements. It addresses questions raised by Generators on Winter Readiness and DNO operations.

Introduction

Generators are encouraged to review the government document Electricity System. Emergency Code (ESEC) in understanding the requirements to qualify as a Protected Site and the obligations required under the Code. Any connected customer has the right to apply for Protected Site status, but all applications will be assessed against the criteria set out in ESEC.

It should be noted that all DNO – Generator connection agreements allow for DNO's to disconnect generators during an emergency.

It is understood that a number of DNO's responded to the questions raised by embedded generators but fundamentally the DNO's will manage embedded generation in the same way as it does for any connected customer.

If the Generator is connected via:

- **Discreet Feeder** – the generator can apply to be a Protected Site or the DNO will already be aware and will have arranged for the connection not to be included in their disconnection plan.
- **Connected at 33kV** – Dependant on the DNO but the majority of DNO's plan RLD disconnections on 11kV feeders so the impact to 33kV connected generation would be minimal. Some DNO's operate OC6 at 33kV so embedded generation retains the risk of disconnection on some DNO networks following an OC6 instruction. It is important to speak to the DNO and understand your network.
- **Non-discreet 11kV Feeder** – will be disconnected during OC6 and ESEC RLD events
- **LV Feeder** - will be disconnected during OC6 and ESEC RLD events.

Generator Questions

With regards to the questions posed, the Emergency Planning Managers Forum support the responses below but have offered further advice to specific questions.

1. **Where the post code references are stored that all parties can see – they are currently stuck behind needing DCUSA¹ approval to see them or on the power cut 105 website. And those sources differ - why?**

¹ Distribution Connection and Use of System Agreement

The Powercut105 and DCUSA data sets are the same. The data sets have recently been reviewed and re-published. The data and the post code – RLD block letter search is available via Powercut105 or, for multiple asset requests, via the API implemented in December 2022.

2. Which DNOs have switching gear at which voltages?

- All DNO's have switchgear at all voltage, typically 132kV, 33kV and 11kV.
- The majority of disconnections are planned at 11kV, although a minority are still planned at 33kV depending on the design of the network.

3. How do the responses differ under OC6.5 and ESEC?

- OC 6.5 is effectively an instantaneous instruction to reduce voltage or disconnect load. Due to the response times this is typically carried out at 33kV substations and is non-discriminatory, even protected sites will be subject to the response.
- ESEC is a planned rolling disconnection to better enable to the recovery of the network from an event requiring OC6 intervention. It has to be authorised by the Secretary of State within 48 hours of request, plans of the following day's disconnections (starting at 00.30) are published on the Emergencies webpage at 18.00. Disconnections are normally carried out at 11kV allowing DNO's more discretion which allows them to manage protected sites.
- Do DNOs do things in different ways or times? A majority of OC6 disconnections are planned at 11kV but as with RLD, because of local network design parameter some OC6 disconnections are planned at 33kV.

4. How does low frequency demand disconnections operate?

- LFDD is an automated process which operates if the frequency falls below a pre-determined level. Falling frequency is normally caused by a sudden loss of generation as was seen on 9th August 2019
- DNO's are developing a programme to make LFDD disconnection more discerning in areas of high generator density. The work will involve relocating LFDD relays further into the network (down to LV for example) but due to the complexity of the work this will be a long term programme.

5. Electricity System Restoration Standard

- ESRS is a new restoration standard being incorporated into Grid Code and Distribution Code. Restoration standards refer to national power outage are separate from demand disconnections.

6. Is there anything smaller gencos can do to help in these situations?

- Generators should ensure their relay settings meet the Loss of Mains requirements of EREC G59/3-7 (for connections prior April 2019) or EREC

G99 to ensure they have the ability to ride through faults and operate in compliance with network requirements.

7. Would National Grid (ESO) ask DNOs to protect sites?

- Most of the sites would comply with the code if they needed connecting. If you're licenced to comply with Grid requirements, they will ask you to make sure your connection is resilient.

8. When a power cut happens do DNOs issue a notice by some industry notice?

- A BM report will issue notification to the market. LFDD events would come under BM notices.