



## Demand Control Rotation Protocol Summary

Latest Version: 2.2

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The Demand Control Rotation Protocol (DCRP) informs organisations within the electricity sector of the DCRP process, the communication procedures, and the actions they must take. This document is a summary of the industry protocol that will be used by distribution network operators and the National Energy System Operator (NESO) when the DCRP is required to be implemented.

This summary is based on version 4.0 of the DCRP. This summary document will need to be updated, with every review of the DCRP or update to Grid Code OC6.9.

### Introduction

In an electricity supply emergency, demand control measures can be used to protect the electricity transmission and distribution systems. These measures reduce electricity demand across Great Britain in a fair and equitable manner. The demand control measures that form part of the protocol will not be used to handle day-to-day operation of the transmission and distribution systems.

The Demand Control Rotation Protocol (DCRP) was created in 2023 to reflect recent geopolitical changes in the global energy sector to prepare for an event where there is more demand on the system that can be met by the available generation. It is allowed for under [Operation Code No. 6 \(OC6\) – Demand Control](#), of the Grid Code. The objective of OC6 is to achieve a reduction in demand that will either avoid or relieve issues on the transmission system, while being fair and equitable to consumers. The DCRP arrangements are described in OC6.9. The DCRP addresses short-term issues in order to prevent unplanned demand disconnections, such as via Low Frequency Demand Disconnection (LFDD) or, in the extreme, the total shutdown of the GB electricity system. The DCRP describes how demand reduction under OC6.9 will be delivered, whilst ensuring protection (from the DCRP demand control measures) for Protected Sites<sup>1</sup>.

Longer term rota disconnections can be achieved under the powers set out within the Energy Act 1976 or the Electricity Act 1989 using the Electricity Supply Emergency Code (ESEC).

The DCRP is only applicable to NESO and distribution network operators, i.e. DNOs and transmission connected IDNOs. Transmission Owners (TOs) across Great Britain have no formal role under DCRP.

### Demand Reduction Tools

There are different tools available to industry to help manage an electricity supply shortfall to avoid the total shutdown of the GB electricity system. The table below shows a high-level summary of these tools, as detailed in OC6.

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<sup>1</sup> Protected Sites are defined in the [Electricity Supply Emergency Code](#).



	Demand Control Rotation Protocol (DCRP)	Electricity Supply Emergency Code (ESEC)	Low Frequency Demand Disconnection (LFDD)	Manual Demand Control
Grid Code Reference	OC6.9	OC6.1.5	OC6.6	OC6.5
Convenor of process/code	NESO	DESNZ/Secretary of State	NESO/Network Operators	NESO
Purpose	To deal with <b>short-term</b> shortage of electricity supplies to meet demand from consumers. Provide <b>co-ordinated</b> strategy for limiting negative impacts to society & preventing an electricity system shutdown.	To deal with <b>longer-term</b> shortage of electricity supplies to meet demand from consumers. Provide <b>co-ordinated</b> strategy for limiting negative impacts to society & preventing an electricity system shutdown.	To limit the consequences of a major loss of electricity supplies or rapid increase in demand.	To deal with short notice events when there is a shortage in available electricity supplies to meet demand from consumers. Provide strategy for limiting negative impacts to society & preventing an electricity system shutdown.
Methods of Demand Reduction	1. <b>Planned Load Disconnection (exclude protected sites)</b> via up to 14 (circa five percent of demand) load blocks.	1. Public appeal to reduce usage & restrict usage of industrial & commercial premises. 2. Restrict usage of industrial & commercial premises. 3. <b>Planned Load Disconnection (exclude protected sites)</b> via 18 (circa five percent of demand) load blocks.	1. Designed to automatically disconnect at least 60% (40% in Scotland) of the total transmission system demand in 9 stages at predefined low frequency points (48.8 – 47.8Hz).	1. Voltage control, designed to reduce transmission system demand by reducing customer voltages. 2. <b>Planned Load Disconnection (excluding protected sites)</b> via up to 4 (circa five percent of demand) load blocks that can be disconnected quickly.
Conditions for implementing Load Disconnection	1. Enhanced market and network options exhausted, generation or	1. NESO advise DESNZ of a requirement to use load disconnection	1. Automatic low frequency relays are triggered by the falling	1. Enhanced market and network options exhausted, generation or



Demand Reduction Tool	Short-term period	for a longer-term period	Frequency on the GB electricity system.	Storage or interconnector shortage remains.
1. Demand Reduction Tool	1. Storage or interconnector shortage remains.	1. Demand Reduction Tool	1. Frequency on the GB electricity system.	1. Storage or interconnector shortage remains.
2. System Warning issued.	2. System Warning issued.	2. Invoked by Secretary of State (SoS) following obtaining an Order of Council	2. NESO instructs DNOs when to restore disconnected demand.	2. System Warning issued.
NESO instructs DNOs to implement the required amount and duration of load disconnection in accordance with agreed plans.	NESO instructs DNOs to implement the required amount and duration of load disconnection in accordance with agreed plans.	SoS directs NESO and DNOs to implement rota load disconnection in accordance with agreed plans.		NESO instructs DNOs when to disconnect and reconnect demand.

**Table 1 – Comparison between different Demand Reduction Tools**

## DCRP Process

The DCRP enables a response to a short-term, forecastable event on the electricity system. An example of this is where there is a shortfall in supply to meet forecasted demand, such as during a period of cold temperatures, combined with low wind. This would likely be an in-day response that NESO would need to respond to within 24 hours of a shortfall being identified. It will most likely be actuated to manage an electricity supply shortfall during evening peak, where the situation cannot be effectively controlled using other demand control measures, e.g., voltage reduction. The DCRP can, however, be utilised to manage other short-term shortfalls in electricity supply. The DCRP reduces demand by load disconnections, using a pre-prepared rota and plan. The DCRP will only be utilised after enhanced market and network options have been exhausted.

A summary of the process can be seen in the diagram below.

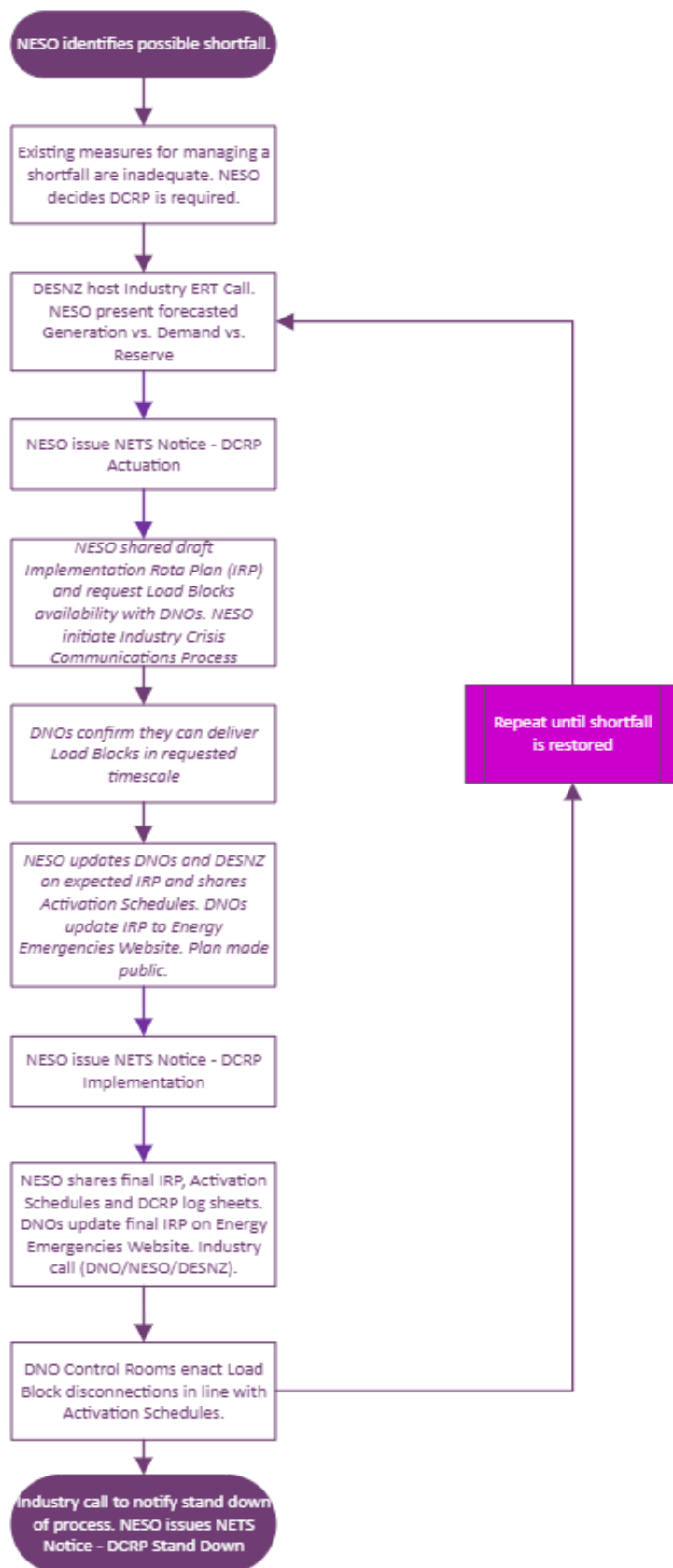


Figure 1 – Flowchart showing a summary of the DCRP Process. Note: text in italics indicates that these steps are not included in Grid Code OC6.



## Implementation Rota Plan

NESO will create an Implementation Rota Plan (IRP) with the rota for disconnecting and reconnecting load blocks. Where practicable and necessary, the same level of rota disconnection will apply to all 14 DNO licence areas. The IRP will be created during the emergency, to adapt to the requirements of the situation. The IRP uses the same load blocks used by the ESEC other than R, S, T & U which are reserved as fast load blocks<sup>2</sup> (to be used when there is a need to reduce demand on the transmission system and there is insufficient time to implement the DCRP). Load blocks will be disconnected in alphabetic sequence (up to load block Q).

## Stand Down Procedure

When NESO forecasts show that there are no further electricity supply shortages and the DCRP based demand disconnection is no longer required, NESO will inform DESNZ, Ofgem, and industry. NESO's decision to stop implementing DCRP will then be communicated to DNOs with a formal instruction for DNOs to revert to normal network configuration and operation (without demand disconnection) by issuing a National Electricity Transmission System Notice for DCRP Stand Down.

## Communications Plan

The Communications Plan for the DCRP will use existing communications procedures.

NESO will lead on all communications relating to a DCRP event. This will include hosting a national press conference and publishing information on its social media channels (including LinkedIn and X). All communications will be coordinated with the Energy Networks Association (ENA) and will utilise the [www.powercut105.com](http://www.powercut105.com) website.

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<sup>2</sup> Fast load blocks can be disconnected by the DNO at very short notice in accordance with OC6.5.4 and this allows NESO to call upon this service whilst the DCRP is being implemented. This retains the ability to use fast load blocks during an emergency if one was to concurrently occur during a DCRP event.