

Agenda

| 1 | Introduction, meeting objectives and review of previous actions - Claire Newton, NESO |
|---|---|
| 2 | Code Administrator Update – Lizzie Timmins, NESO (Code Administrator) |
| 3 | Transition from Mandatory Frequency Response to Dynamic Regulation – Vicky Allen, NESO |
| 4 | Presentation Title Grid Code Compliance Simulations Checklists for Power Park Modules – Tanmay Kadam, NESO |
| 5 | NESO Control Room Expectations in the Event of Electronic Communication Failure (EDT & EDL) – Ben Young, NESO |
| 7 | AOB and Meeting Close - Claire Newton, NESO |



GCDF – Objectives and Expectations

Objective

Develop ideas, understand impacts to industry and modification content discussion, in relation to Grid Code related issues.

Anyone can bring an agenda item (not just NESO!)

Expectations

Explain acronyms and context of the update or change

Be respectful of each other's opinions and polite when providing feedback and asking questions

Contribute to the discussion

Language and Conduct to be consistent with the values of equality and diversity

Keep to agreed scope

The Forum will be recorded and made available on the GCDF webpage along with summary notes.



Code Administrator Update

Lizzie Timmins, NESO (Code Administrator)



Key Updates since last GCDF

New Modifications / Nominations

GC0184: Reactive Power requirements for PPMs when Operating below Maximum Active Power – New modification which will be presented at the Grid Code Review Panel meeting.

Decisions

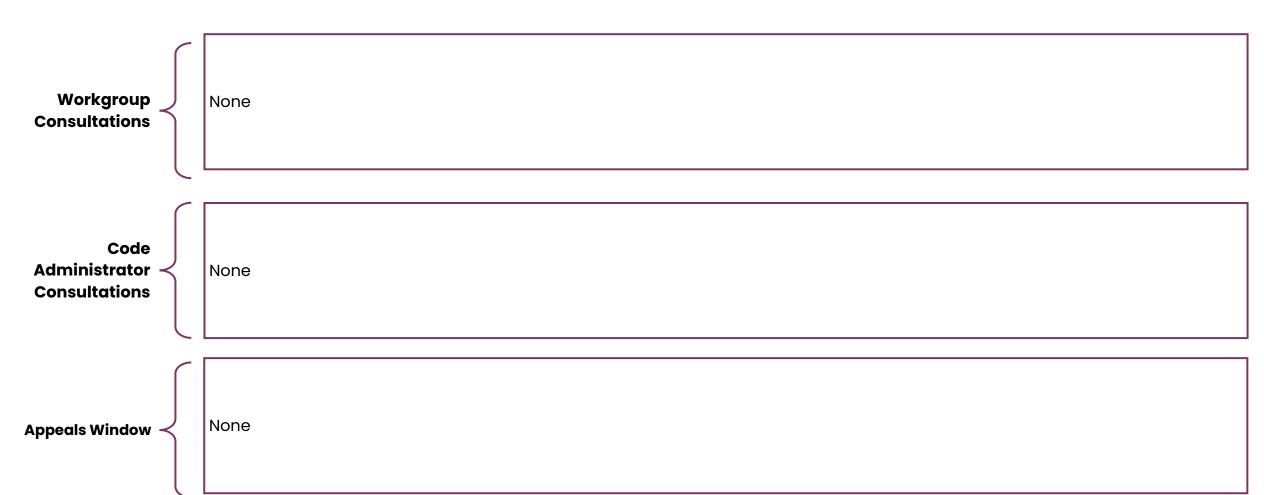
The Authority approved <u>GC0183: Generator and Interconnector Availability During a Severe Space Weather Event | National Energy System Operator</u> on 20 November 2025.

Implementations

GC0183: Generator and Interconnector Availability During a Severe Space Weather Event will be implemented on 04 December 2025.



Key Consultations





Useful Links

Ofgem's expected decision dates/ date they intend to publish an impact assessment or consultation, for code modifications that are with them for decision are available here

Updates on all Modifications are available on the Modification Tracker here

The latest Grid Code Review Panel Headline Report and prioritisation stack are available <u>here</u>

If you would like to receive updates from the Code Administrator on Grid Code modifications, please join the distribution list <u>here</u>



Transition from Mandatory Frequency Response to Dynamic Regulation

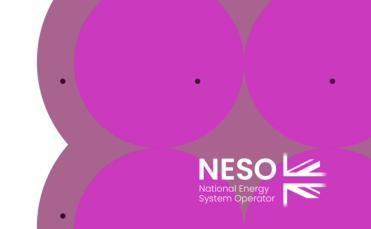
Vicky Allen

December 2025



Contents

- 1. Business Case
- 2. Timeline for the Transition
- 3. Relevant Sections of Grid Code
- 4. Relevant Sections of CUSC
- 5. Questions?



Why transition from MFR to DR?

Ofgem Derogation on MFR

Ofgem have placed a derogation on MFR that NESO must either reform or replace it by the end of 2029.

After assessing the options replacing MFR with DR was identified as the best.

Reduce Barriers to Entry

This will allow easier entry to the BM for some assets who find it difficult to deliver MFR

Consumer Savings

Significant consumer saving have been identified by moving from MFR to DR.

Estimates show that we can expect a reduce in the costs of frequency response of approx. £15m pa.

There could be additional savings if NESO is able to reduce over procurement of dynamic response services at day ahead.

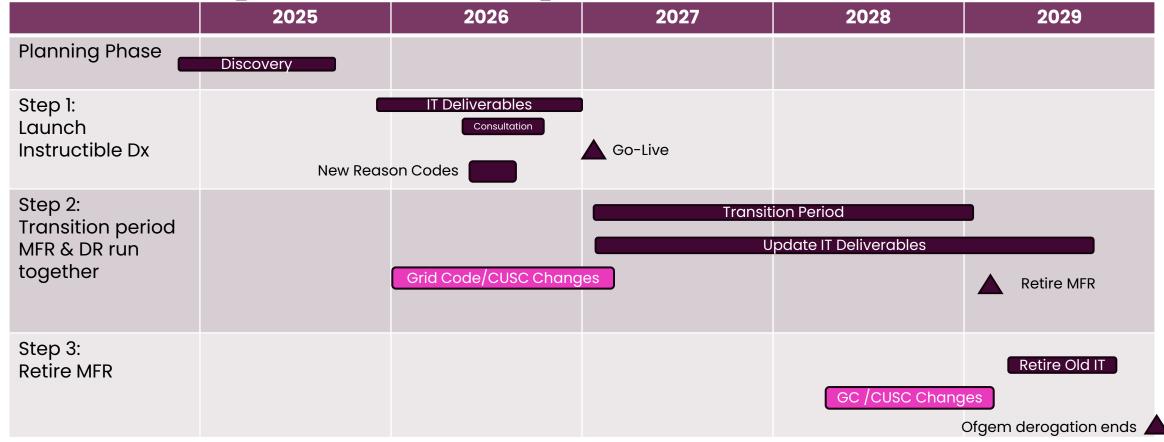


Comparison of MFR & DR

| | MFR | DR | |
|---------------|--|-----------------------------------|--|
| Market | Mandatory | Commercial | |
| Participants | BMUs Only | BMUs & NBMUs | |
| Speed | 10 seconds (PSH) 30 seconds (SH) | 10 seconds | |
| Duration | 30 mins (LF), Indefinite (HF) | Up to 60 mins | |
| Direction | Bundled High & Low | High & Low | |
| Purpose | Design as pre- and post-fault, but now only operating as pre-fault | Pre-fault | |
| Documentation | Grid Code & CUSC | Service Terms & Procurement Rules | |



Delivery Roadmap





Code Change Methodology

Aim for 2026

The aim is to allow DR as an alternative to MFR. The approach will be to add the phases

"or dynamic regulation low" wherever "primary" and/or "secondary" response is mentioned

And

"or **dynamic regulation high**" wherever "**high**" response is mentioned

Aim for 2028

The aim here will be to remove MFR as a way of meeting the frequency response requirement in the GC. The approach will be to look to remove the phrases:

"Primary", "Secondary" and "High" response

This will leave only "dynamic regulation low" and "dynamic regulation high" as the only frequency response services for GC parties.



Affected Grid Code Clauses

Glossary & Definitions

New entries for DRH & DRL

Insert into relevant other definitions

Connection Conditions (CC)

CC 6.3.7

CC A.3.1, CC A3.2, CC A3.3, CC A3.4

European Connection Conditions(ECC)

ECC 6.3.7

ECC A.3.1, ECC A.3.2, ECC A.3.3, ECC A.3.4

Planning Code (PC)

PC A.5.5

PC A.9.3.2

Data Registration Code (DRC)

DRC 6.1.4

Post Gate Closure Process (BC2)

BC 2.9.5.1

BC 2.A.2.5

Frequency Control Process (BC3)

BC 3.5.4(a), BC 3.5.4(b)

BC 3.7.1 (a), BC 3.7.1 (b) (i), BC 3.7.1 (c)

BC 3.7.2.1 (a), BC 3.7.2.1 (c)

Operational Planning & Data Provision (OC2)

OC 2.4.6.2



Affected CUSC Clauses

4.1.3 – Frequency Response

11.3 - Definitions

Appendix 1

Appendix 3 – definition of "frequency sensitive mode" and "Mode A"





Grid Code Compliance Simulations Checklists for Power Park Modules

Tanmay Kadam – Engineering Compliance



Purpose

- Based on the feedback received from Customers; NESO is aiming to improve the User experience when submitting the Grid Code Compliance Simulation Studies before an Interim Operational Notification (ION) can be issued
- The endeavour here is to achieve clarity and consistency in the compliance assessment of Simulation Studies by clearly articulating the key compliance aspects to reduce the number of iterations in compliance submissions
- · NESO is proposing a series of comprehensive checklists outlining,
 - Required list of Simulation Cases
 - Performance Acceptance Criterion
 - Relevant Grid Code or Guidance References
- These checklists will be incorporated into NESO's 'Guidance Notes' and will also be shared with the Customer early in the compliance process



Proposal

- Three checklists are proposed in line with the Grid Code requirements for Power Park Modules covering the following:
 - 1. Voltage Control
 - 2. Frequency Response
 - 3. Fault Ride Through
- Prior to publishing, NESO would like to arrange a workshop to consult with interested parties to review and refine the above proposal checklists. Please register your interest by sending an email to tanmay.kadam@neso.energy.
- Currently proposed format for the checklists:

| Date Received Reviewer | Project: | | | |
|--------------------------------|-----------------------------------|--------------|---------------------|--|
| Date Reviewed Date Sent to CCM | Voltage Control Studies Checklist | | | |
| Items | Functions / Documents checklist | GC reference | Compliant / Comment | |
| Initial Conditions | | | | |
| Complete List of Simulations | | | | |
| During & Post Event | | | | |
| | | | | |





NESO Control Room Expectations in the Event of Electronic Communication Failure (EDT & EDL)

Ben Young, NESO



What would the NESO control room expect in the event of Electronic Communication Failure (EDT & EDL)?

Background (Balancing Code 1)

BM participants initially submit commercial data (PN & BID-Offer Data) prior to 11:00 for the next operational day. If no data is submitted at 11:00 for the next operational day then previous data will be used (i.e. defaulted) in line with the Data Validation, Consistency and Defaulting Rules until new data is submitted.

Physical Notifications (PNs) and Bid-Offer Data submitted **via EDT** can be updated at any time until Gate Closure ensuring NESO always have the latest commercial data. This data can only be submitted via EDT which is the responsibility of the participant.

Dynamic Data (ramp rates, MNZT/MZT, NDZ, NTO/NTB etc) and Maximum Export/Import Limits (MEL/MIL, SEL/SIL) can be submitted **via EDL** at any time. EDL is a NESO responsibility.

Failure of electronic communication (EDT and EDL)

In the event of a failure of EDT which meant participants were unable to submit commercial data then NESO control room would expect (in line with Balancing Code 1.4)

- Participants to follow last submitted Physical Notifications (adjusted by NESO instruction)
- Last submitted Bid and Offer data applies for instructions

In the event of a failure of EDL (in line with Balancing Code 2.6),

- · NESO will issue instructions via telephone
- Participants can revise their Export/Import Limits & Dynamic Parameters via telephone

The above process enables the NESO control room to ensure they have certainty on what participants will do and enables instructions to be issued to balance the system.



Maintaining System Security During Loss of Electronic BOA Instruction Capability

Background (Balancing Code 2)

Under normal circumstances, Bid-Offer Acceptances and Ancillary Service instructions will be given electronically by automatic logging device (EDL) and will be given to the Control Point for the BM Unit.

Failure of automatic logging device (EDL Failure)

In the event of a failure of the logging device or an outage of computer system, Bid-Offer Acceptances and Ancillary Service instructions will be given by **telephone**.

However, with the BM system now comprising hundreds of BMUs, telephone instruction process might become operationally unsustainable under certain conditions. Moreover, the volume of BOAs required to balance the system has increased considerably.

Therefore, in the event of EDL or computer system failure, where it is not possible to securely balance the system because of the number of BOAs need to be given over the telephone individually, NESO may determine that it is necessary to enable the use of **Emergency Instructions** (Balancing Code 2.9).

Having determined that it is necessary to use Emergency Instructions, NESO will contact relevant Control Points to issue Emergency Instructions, including bulk Emergency Instructions, where they are reliably deliverable and necessary.

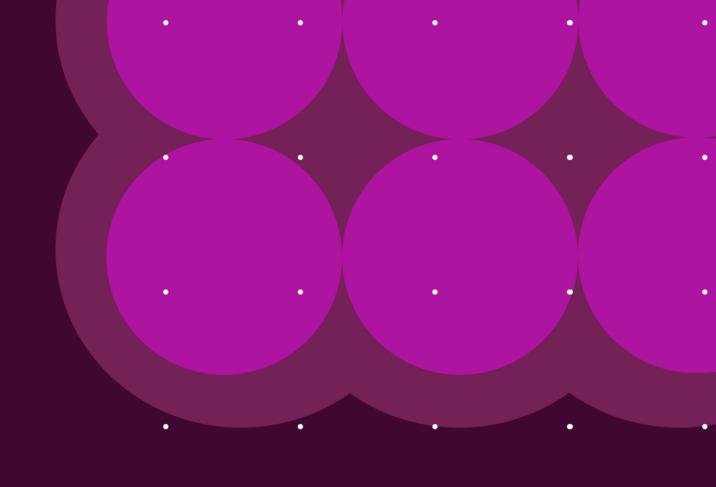
The above process enables the NESO control room to ensure system security during loss of Electronic BOA instruction Capability.













Large Demand Technical Requirements Expert Group

- Following the item on large demand technical requirements presented at GCDF on 05 November 2025, NESO will be launching an expert group to lead on this topic.
- The inaugural meeting for this group will be held on 27 January 2026.
- If you are interested in attending, then please contact box.techcodes@neso.energy.



AOB – Panel Representatives

- The Grid Code Review Panel (GCRP) is the group that governs the Grid Code.
- The GCRP is made up of an independent panel chair, a panel technical secretary and code administrator representative, representatives from the authority, the BSC and NESO, network operators, suppliers, offshore and onshore transmission licensees, and generators.
- GCRP meets monthly (or ad-hoc, if needed, e.g. for Urgent Mods) to carry out the following functions:
 - Evaluate and administer amendments to the code
 - Review any consequences of those amendments
 - Administer the code itself
 - Establish joint working arrangements
 - Prioritise modifications
- You can find more details, including name and contact for the Panel reps, here:
 - <u>Grid Code Panel Panel Representatives National Energy System Operator</u>
- Panel representatives welcome the opportunity to hear from you to ensure your views are considered.

