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Grid Code Development Forum

03 September 2025

Agenda

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- 1 Introduction, meeting objectives and review of previous actions – **Claire Newton, NESO**
 - 2 Code Administrator Update – **Lizzie Timmins, NESO (Code Administrator)**
 - 3 Additional Information about the EDL and EDT Disruption on 24 June 2025 – **Jill Wells, NESO**
 - 4 Alignment of Commissioning Process for Users and TOs – **Alan Prior and Andrew Henderson, NESO**
 - 5 SSO Guidance Version 2 – **John Fradley, NESO**
 - 6 Fax Replacement – **Paul Bainbridge, NESO**
 - 7 AOB and Meeting Close – **Claire Newton, NESO**
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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

GC0181: Enhance the Effectiveness of System Incidents Reporting– nominations opened on 28 August and will close on 18 September.

Decisions

The Authority sent back GC0117: Improving transparency and consistency of access arrangements across GB by the creation of a pan-GB commonality of Power Station requirements on 18 July for further work. Nominations opened on 28 August and will close on 18 September.

Implementations

None

Key Consultations in August

**Workgroup
Consultations**

None

**Code
Administrator
Consultations**

GC0169: Material changes arising from Grid Code Modification GC0136 Code Administrator Consultation opened on 30 July and will close on 05 September.

GC0173: Consistency of Technical and Compliance Requirements between GB and European Users Code Administrator Consultation opened on 30 July and will close on 05 September.

GC0183: Generator and Interconnector Availability During a Severe Space Weather Event Code Administrator Consultation is due to open on 19 September and close on 20 October.

Appeals Window

None

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 [here](#)

If you would like to receive updates from the Code Administrator on Grid Code modifications, please join the distribution list [here](#)

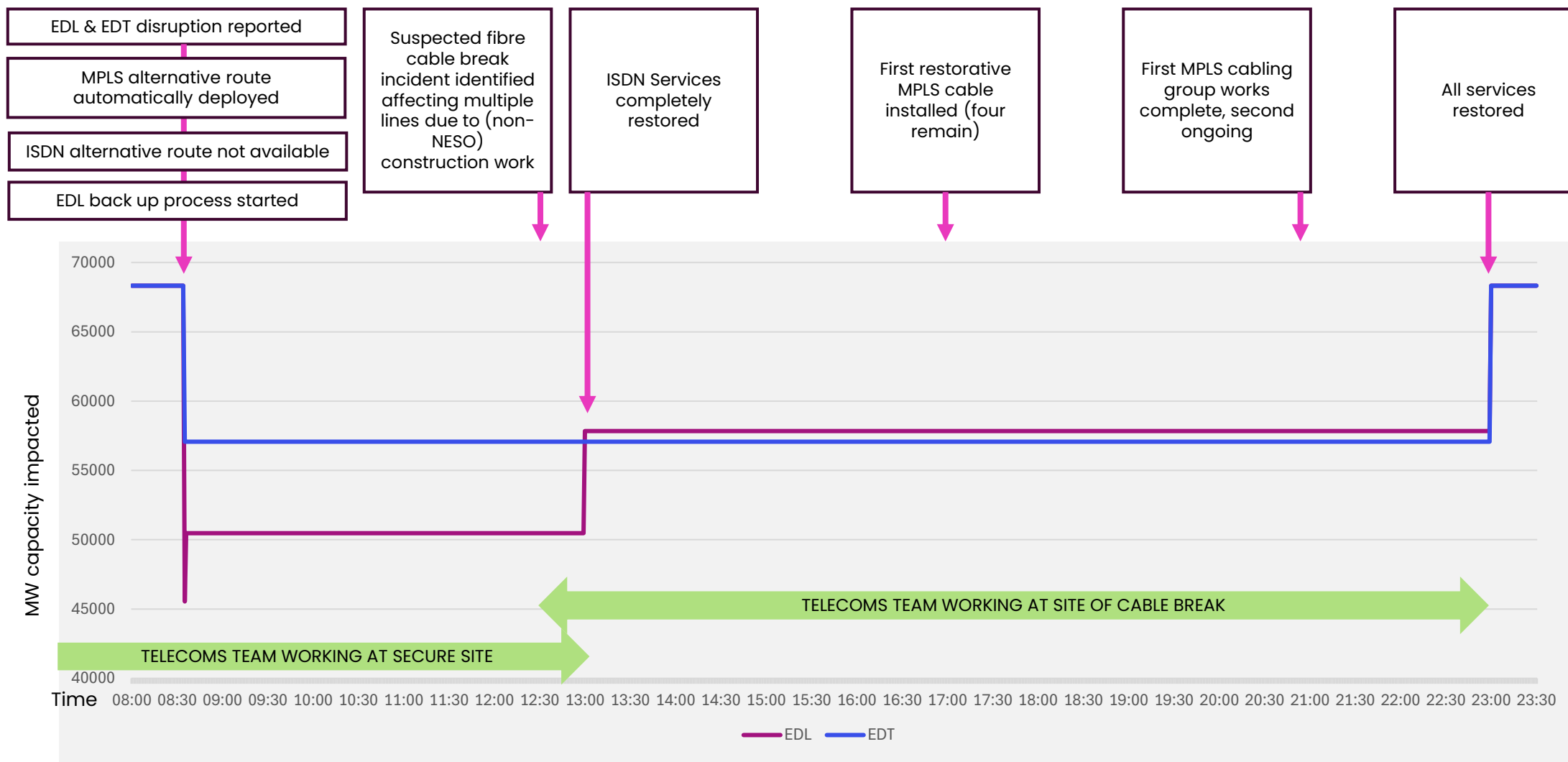
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Additional Information about the EDL and EDT Disruption on 24 June 2025

Jill Wells, NESO

A brief timeline

(for further information see GCDF and Operational Transparency Forum materials for 9 July 2025)



Additional Information

On Tuesday 24 June, a number of market participants experienced disruption to their EDL and EDT communications services between 08:30 and 23:00, with some services restored by 13:00.

NESO have followed up on the services which were not restored at 13:00. NESO information shows each of these services did appear to have a secondary link available throughout the period of the disruption.

We have no information in the NESO systems or communication links which explains why these secondary links were not used. Impacted market participants may wish to approach their service provider for further information.

EDT/EDL OTF Links

[OTF slides 09 July 2025 \(includes GCDF slides 02 July 2025\)](#)

[OTF webinar recording 09 July 2025](#)

Alignment of Commissioning Process for Users and TOs

Alan Prior &

Andy Henderson, NESO

User Commissioning Process – Problem Statement

Issue:

- The SO-TO Code Procedure (STCP) provides a structured approach to commissioning and decommissioning. The SO and TOs understand their deliverables and timescales for implementation.
- The STCP doesn't apply to Users or DNOs. They use their own internal procedures that do not align with the SO's or TOs' agreed procedures and vary significantly per User.

Impact on NESO:

- The misalignment causes friction leading to complaints of obstruction by Users.
- User connections can be delayed due to short notice data submissions from Users.
- DNOs' system changes are invisible to the SO especially where large embedded generators are moved to different GSPs.

Impact on Users/TO:

- Several users have given feedback that they find the TO and SO obstructive when working to their processes. This leads to delays and misunderstandings as to what needs to be done when.

Modified User Commissioning Process Proposal

Proposed Solution:

- Expand ECC.5.1 to introduce a new Electrical Standard.
- The Electrical Standard will be a modified version of STCP19-4: Commissioning & Decommissioning that will be applicable to **Users**.
- This will outline required data submissions to ensure NESO and/or TOs can correctly set up the users on their respective systems, and outline reasonable timescales for this to be implemented in.

Alternative Option considered:

- Include reference within the BCA, BEGA or BELLA to STCP19-4 procedure and timescales. This would require a significant amount of work to update and reissue existing contracts.

Modified User Commissioning Process– Benefits & Impacts

Benefits:

- Unified working across the SO, TO and User interface with everyone working to the same procedures, timescales and expectations.
- Less friction and improved working relationships due to a defined process.
- Ensure all system changes are visible to NESO.

Impacts:

- Potential impact on GC0117 (for E&W) – also impacted if do nothing.
- Risk of delays on projects with defined Service Level Agreements.
- Construction penalties paid by Users due to misalignment of expectations and onsite delays (due to misalignment of procedures)

Industry Engagement

Feedback from industry:

- NESO Customer Connections team are in support with the proposal.
- Contacts within the SSENT Commissioning team are in support of aligning commissioning activities across SO, TO and Users. They have provided several comments around the Site Responsibility Schedules (SRS) and around who should lead on the User commissioning process.
- The SHEPD Planning Team are supportive of this process development but highlight the importance of the process being efficient and streamlined.
- Feedback from two directly connected Users has indicated they are supportive of this proposal.

The asks of GCDF

1. Do you agree that a Grid Code modification and the addition of an Electrical Standard for User commissioning and decommissioning (data submissions and timescales) would improve the commissioning process?
2. Are there any impacts that have not been considered here?
3. Are there any other suggestions that could improve the commissioning process?
4. Any other considerations from GCDF members.

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SSO Guidance Version 2 Update

John Fradley, NESO

Introduction

SSO background

While system oscillations are not a new phenomenon, the GB network has started to experience an increase in oscillatory events. In response to these events, NESO has set about gaining a deeper understanding of the causes and mitigation strategies, as well as improving how the analysis for new connections is performed.

Background of SSO events and long-term strategy can be found in:

Sub-synchronous oscillations in GB Current state and plans for future management, NESO, 2024.

Overview of Changes

Development of SSO Guidance Version 2

Development and improvement of the guidance has been achieved through:

- User feedback
- Reviewing study data
- Continued evaluation of study methods

Main Changes in Version 2:

1. Required studies based on connection type
2. Plant and network configurations for the studies
3. Active frequency scan methodology

Required Studies

In Version 2 the required studies are based on connection type

Connection type	SSO Test Methods				
	Step change	Small signal injection - magnitude	Small signal injection - angle	Frequency scan	Eigenvalue analysis
Type A/B	Required	Optional	Optional	Optional	Optional
Directly Connected (Type C/D)	Optional	Required	Optional	Required	Optional

Plant and Network Configurations

- **Control Mode:** Voltage control mode by default. Reactive power or power factor control if contracted.
- **Short Circuit Level:** Minimum SCL only for Grid Following. Maximum and minimum For GFM technology.
- **Active Power:** Tests should be run at minimum and maximum active power levels with both import (where applicable) and export conditions.
- **Reactive Power:** Minimum, maximum and zero reactive power level in combination with minimum and maximum active power dispatch.
- **Frequency Response:** Limited Frequency Sensitive Mode (LFSM) should be On and Frequency Sensitive Mode (FSM) should be Off.
- **Operating Mode:** Grid Following and Grid Forming modes if the plant is intended to be operated in both modes.

Active Frequency Scan Method

Version 1

In the previous guidance, single-input single-output (SISO) approach was proposed. This approach simplifies the system to a single pathway from input to output which overlooks interactions and interdependencies present in real systems.

Version 2

To overcome the simplification, Multi Input Multi Output (MIMO) approach is proposed. This will provide a more accurate and reliable analysis of the plant by capturing multiple interactions present in real-world systems.

MIMO approach requires either the positive and negative sequence or dq domain injections. The small signal can be a voltage signal in series with a grid or a current injection in parallel with a grid.

Active Frequency Scan Tool

MIMO Tool

For PSCAD users, MHI are due to release a MIMO tool. In the meantime, the User can request a version of the MHI Full Impedance/Admittance Scanning (3 Phase) tool.

Frequency ranges

- 1Hz increment for 1-100 Hz,
- 10 Hz increment for 100-500 Hz

Handover Period

The User is allowed to adopt either the SISO or MIMO method for the studies until six months following the publication of the official PSCAD MHI tool.

Next Steps

- Guidance release following GCDF forum
- Continued interaction with User's to understand issue and concerns
- On-going evaluation of SSO methods

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Fax Replacement

Paul Bainbridge, NESO

Fax Replacement – Recap

Business Drivers

- By January 2027 BT will be shutting down the PSTN network upon which the FAX machines rely.
- NESO will move away from this paper-based model to a digital solution.
- The new DES (Digital Exchange System) Portal has been designed to be:
 - Easily adopted by existing and new market participants.
 - Secure.
 - Meet the needs of the market participants and NESO.
 - Deployed with minimal complexity / risk.

Principles

- Within the Code, the term “Designated Exchange Information System” has been added to allow the fax machines to co-exist with the new portal until the fax machines are decommissioned.
- Rollout to users will be a phased approach (not ‘big bang’).
- Dependencies on other projects have been reduced wherever possible.
- Designed with security in mind.
- Adaptable for future developments e.g. the Open Balancing Platform (OBP).
- Provides all parties with the delivery / receipt assurance required.

Project Update

- The DES portal has been developed, tested and is currently running in the production environment as a pilot “proof of concept” test with a small group of NESO internal and external users.
- Pilot test will run until the end of September.
- On successful completion of the pilot phase, onboarding of all fax users onto the DES portal will start.
- Forms for Interconnectors and Intertrips are currently being developed and tested.
- Network Services Contracts forms have been made available to the project team for developing.
- Development of an API is underway giving users the option of sending data from their systems directly to the DES platform without the need to manually enter data into the portal.

Code Changes

- Code changes were published at the end of March in time for the pilot testing phase to begin in April.
- Code change and added the term 'Designated Exchange Information System' as a generic term for the portal or any other method of electronic communication.
- This change permits compliance with the Code while the pilot test is in progress and into the rollout phase.
- A further code change will be required to remove all mentions of fax. These changes will need to be issued soon after the fax machines are decommissioned in January 2027.

Thank You

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AOB

ORPS methodology review – webinar

- Our Innovation project, funded through the Network Innovation Allowance (NIA) is reviewing the Obligatory Reactive Power Service (ORPS) methodology, and is now entering its final phase.
- This phase of the project seeks to present to industry the process undertaken to develop a new methodology and gather feedback on the design.
- We invite ORPS service providers and industry representatives to join a webinar where they can share their views on the proposed recommendations. This session will also capture feedback to guide our next steps.
- NESO's project partners DNV are hosting the webinar on **Thursday 25th September, 13:00 to 14:30**
- If you are interested in attending, please contact box.futureofbalancingservices@neso.energy