

Public

Grid Code Development Forum

5 February 2025

Agenda

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- 1 Introduction, meeting objectives and review of previous actions - **Claire Newton, NESO**
 - 2 Proposed Changes to User Data Submissions Feedback Period (STCP19-3) - **Nnaemeka Anyiam, NESO**
 - 3 Changes to OC6 to allow for site protection of pre-designated protected customers for Automatic Low Frequency Demand Disconnection - **Thomas West, National Grid Electricity Distribution (NGED)**
 - 4 Rationalising Balancing Code 4 (BC4) and Balancing Code 5(BC5) from the Grid Code - **Frank Kasibante, NESO**
 - 5 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.

Review of Previous Actions

ID	Month	Description	Owner	Notes	Target Date	Status
1. Demand Control Rotation Protocol	November '24	<ul style="list-style-type: none"> NESO to liaise with Electricity Task Group (ETG) and ensure any Distribution Code impacts are considered alongside the Grid Code modification. NESO should cross-check the proposed changes with the capacity market rules to ensure consistency 	NESO	Verbal update in December GCDF	4 th December 2024	Ongoing
2. System incidents Reporting	November '24	<ul style="list-style-type: none"> NESO to liaise with Statkraft to determine next steps 	NESO	Follow up meeting between NESO and Statkraft has been scheduled to take place on 16th December 2024	16 th December 2024	Complete

STCP 19-3 SLA Update

Proposer: Engineering Compliance Team (NESO)

Presenter: Nnaemeka Anyiam/Danish Ullah – Compliance Engineer, NESO

Agenda

- **Current SLA Requirement on ESO and Transmission Owner (STCP 19-3)**
- **Challenges/Reasons for proposal**
- **Justification for proposed timescales**
- **Proposed Update**
- **Proposed Legal Text**
- **Potential Impact**
- **Questions/Feedback**

Current SLA Requirement

STCP 19-3 Operational Notification & Compliance Testing

3.8 User Data File Structure (UDFS)

- 3.8.1 To facilitate data sharing and organisation, all data provided by the User to The Company as part of the Operational Notification and Compliance process will be located within a common and standard UDFS as specified in Appendix A8.
- 3.8.2 The UDFS is intended only as an as an outline structure to provide a common and consistent primary level of organisation for data and reports. The Company and the TO may agree sub structures to the UDFS where deemed necessary to accommodate issues relating to particular connection sites.
- 3.8.3 For the avoidance of doubt the UDFS is limited to data relating to User owned equipment and data provided by the User relating to boundary and interface responsibilities. The content of the UDFS will depend upon specific Bilateral Agreements and ownership boundaries.
- 3.8.4 The Lead Role (as marked in the UDFS in Appendix A8) is the Party responsible for reviewing the data.
- 3.8.5 The documentation contained within the UDFS is to be reviewed by the Party responsible for reviewing the data and written feedback is to be provided within 15 business days.

Current SLA Requirement

STCP 19-3 Operational Notification & Compliance Testing

B.2 Responsibilities on The Company

- Nominate a Lead Compliance Representative
- Require the exchange of Safety Rules and list of Safety Co-ordinators (when the TO and User cannot do so)
- Require co-ordination of transmission works (when the TO and User can not do so)
- Produce the Operational Notification Compliance Checklist (as appropriate) and the Compliance Statement.
- Require the User to meets technical requirements as set out in the Bilateral Agreement. If the User does not forward this data to the TO, The Company shall ensure that they do so.
- Ensure co-operation between User and TO With respect to the SRS and Operational Diagrams (when the TO and User cannot do so)
- Ensure that the User complies with any site specific technical conditions as set out in the Grid Code and the Bilateral Agreement.
- Facilitate the sharing with the TO of the relevant parts of the UDFS. This may be achieved via the provision of a Sharepoint site accessible by the User and the TO.
- Review content submitted by the User as part of a UDFS submission and provide comments within 15 business days.

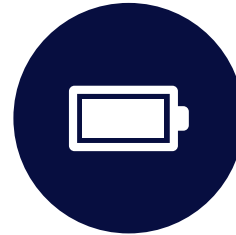
Challenges



**GC0141 – RMS AND
EMT MODELLING
REQUIREMENTS**



**INCREASE IN
NUMBER OF
CONNECTION
PROJECTS**



**INCREASE IN NUMBER OF
BATTERY PROJECTS
REQUIRING COMPLIANCE IN
BOTH GENERATOR AND
DEMAND MODE, AND
ADDITIONAL SIMULATIONS
REQUIRED FOR BATTERIES
DUE TO GC0148
MODIFICATION**



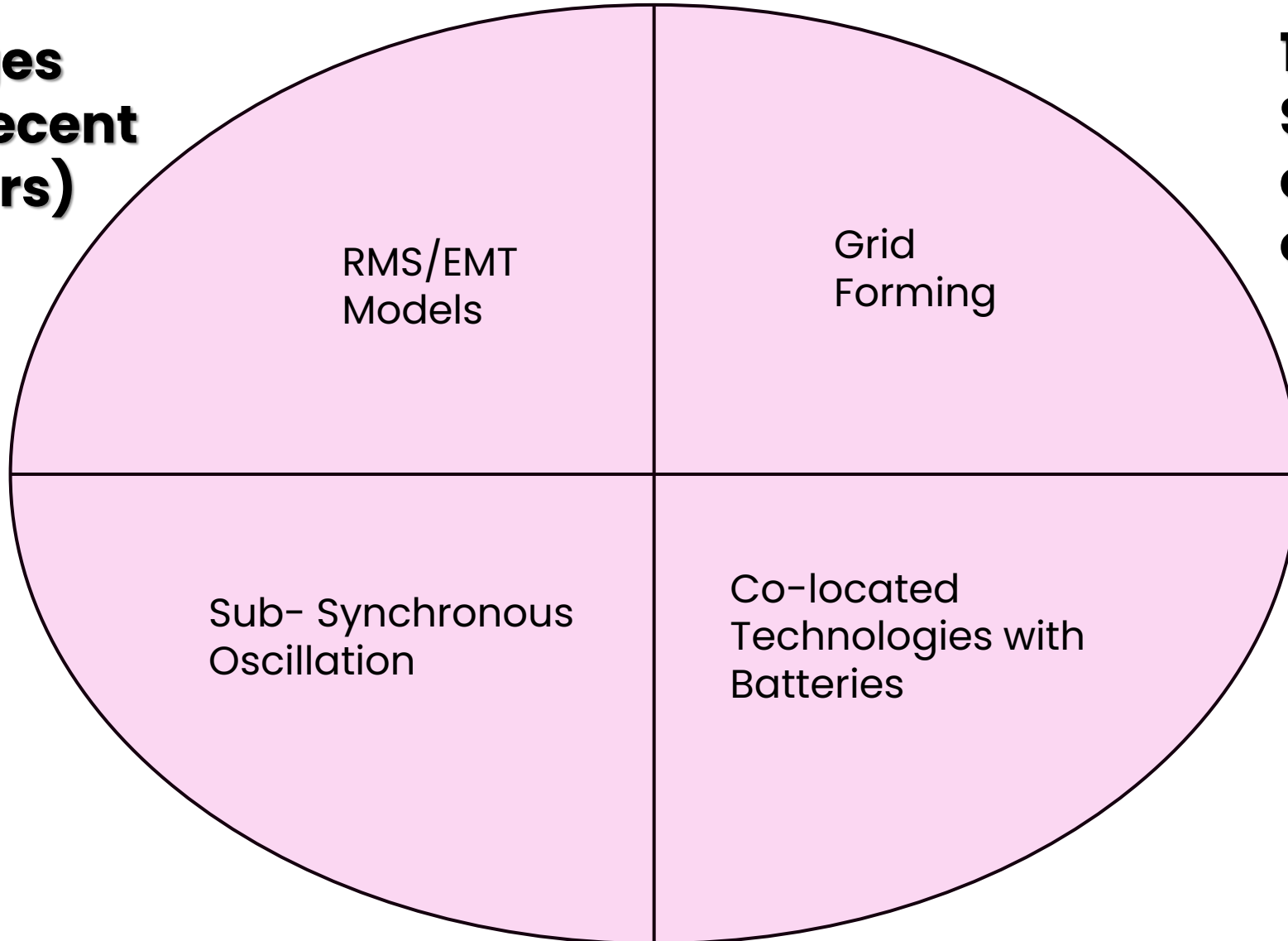
**COMPLEXITY OF
LARGE OFFSHORE
HVDC CONNECTED
WINDFARMS**



**COMPLEXITY OF
GRID FORMING
CONNECTION
PROJECTS WITH
INCREASED
SIMULATIONS**

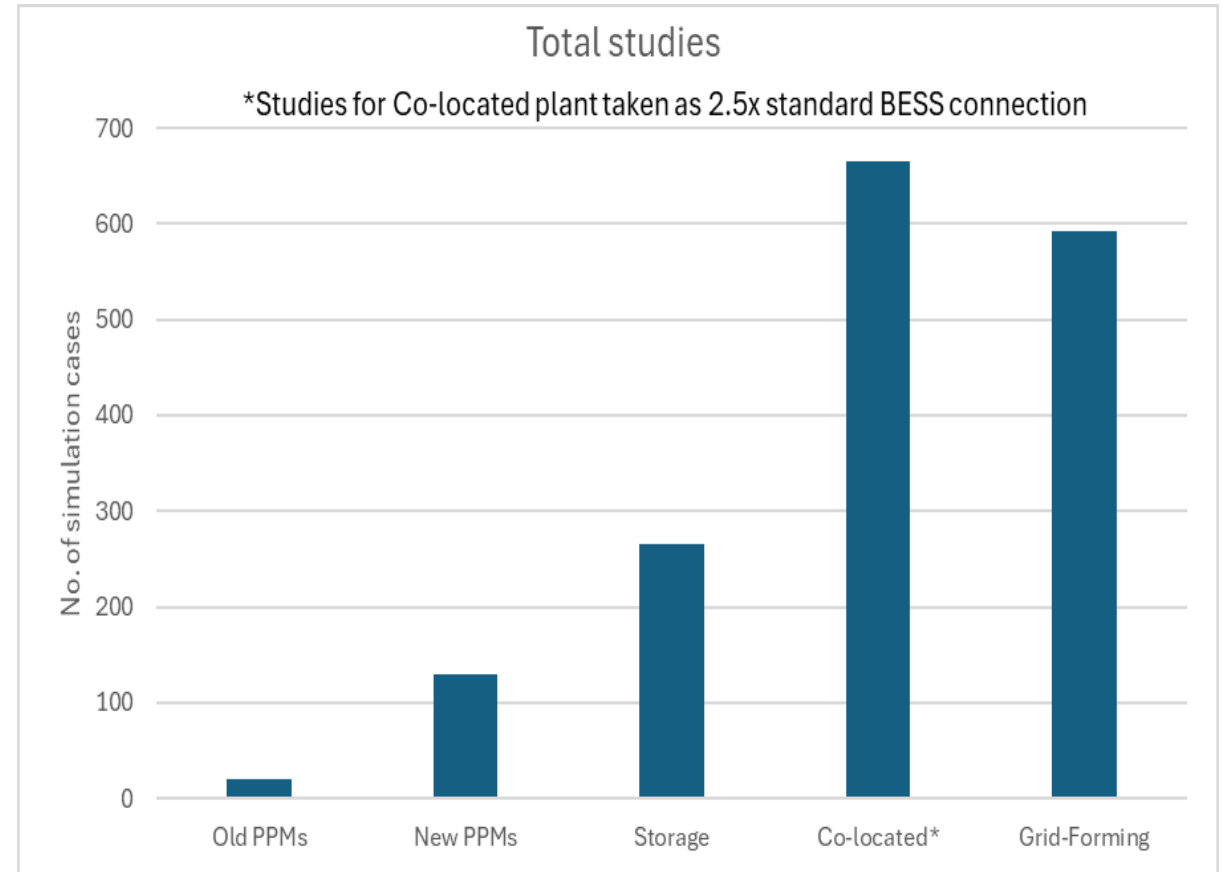
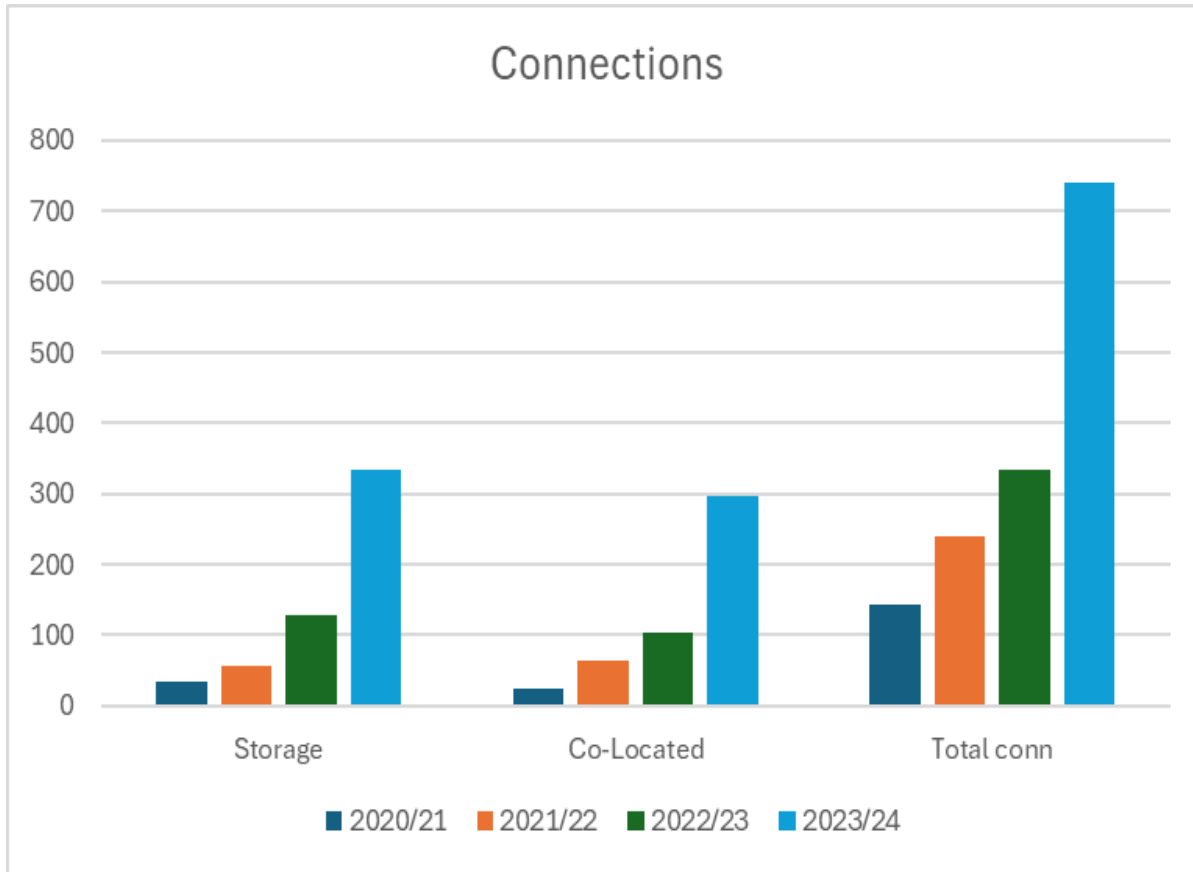
Challenges

**Key Changes
since the recent
past (5years)**



**15 Working day
SLA has been the
case for
over 15 years**

Justification for Proposed timescales



*This chart is based on simulations only. Tests can have a sizeable amount of data as well.

Proposed timescales

Compliance Activity	Proposed Duration (Maximum)
DRC schedule review	15 days
Simulation study review (Large offshore WFs, BESS and HVDC links)	20 Working Days
Simulation study review (Grid forming and co-located)	6 weeks
Simulation study review (other technologies)	15 days
RMS Model Review	20 Working Days
EMT Model Review	20 Working Days
FAT/Compliance Test Results Review (excluding 20% and 70% pre-commissioning tests)	6 Weeks



Compliance Activity	
All Compliance reviews (Simulations, Tests, RMS and EMT Models)	20 Business Days or as agreed with the User
Grid Forming Plant (as defined in the Grid Code) and co-located sites (Simulation and Test Review)	30 Business Days or as agreed with the User.
Excitation System Open Circuit Step Response Test, 20% and 70% pre-commissioned Tests (Voltage and Frequency Control)	2 Business Days

Proposed Text for STCP 19-3

For STCP 19-3

B.2 Responsibilities on the Company

Review content submitted by the User as part of a UDFS submission and provide comments as specified in the table below or as agreed with the User.

Compliance Activity	
All Compliance reviews (Simulations, Tests, RMS and EMT Models)	20 Business Days or as agreed with the User
Grid Forming Plant (as defined in the Grid Code) and co-located sites (Simulation and Test Review)	30 Business Days or as agreed with the User.
Excitation System Open Circuit Step Response Test, 20% and 70% pre-commissioned Tests (Voltage and Frequency Control)	2 Business Days

B.3 Responsibility on the TO

Review TO elements of the UDFS and provide written feedback in not more than 20 business days (from date of receipt of the submission from The Company) unless agreed with the User.

3.8 User Data File Structure (UDFS)

The documentation contained within the UDFS is to be reviewed by the Party responsible for reviewing the data and written feedback is to be provided as specified in sections B.2 (The Company) and B.3 (TO) respectively.

Proposed Text for Grid Code

Grid Code (ECP and CP Section)

The documentation contained within the UDFS is to be reviewed by The Company and written feedback is to be provided as specified in the table below or as agreed with the User. Agreement will typically be required for a UDFS submission with multiple compliance elements which may warrant longer review periods.

Compliance Activity	
All Compliance reviews (Simulations, Tests, RMS and EMT Models)	20 Business Days or as agreed with the User
Grid Forming Plant (as defined in the Grid Code) and co-located sites (Simulation and Test Review)	30 Business Days or as agreed with the User.
Excitation System Open Circuit Step Response Test, 20% and 70% pre-commissioned Tests (Voltage and Frequency Control)	2 Business Days

Potentially Impacted Parties

User

**ESO
Connection
Compliance
Related Teams**

**Transmission
Owner**

**DNO
(Embedded)**

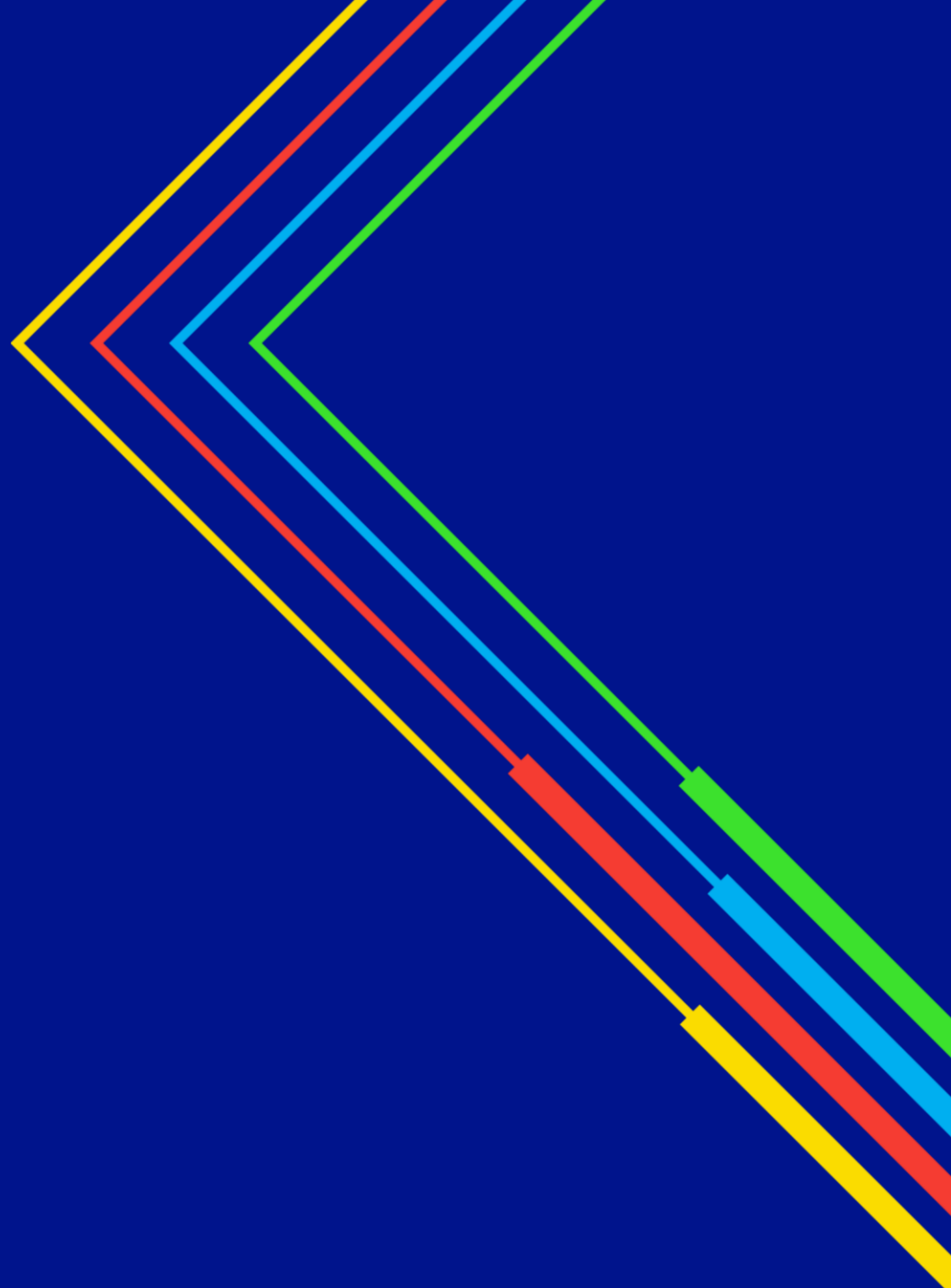
**Thanks for Listening
Any Questions?**



Electricity Distribution

Changes to OC6 to allow for site
protection of pre-designated protected
customers for Automatic Low Frequency
Demand Disconnection

Tom West
Engagement & Resilience Engineer- NGED Control Centre



Forum Feedback & Impact

- **Initial Feedback on the proposed changes**
- **Discovery of Industry impact**
- **Industry insights which will assist the proposal**

Proposals

Following a review carried out by the Power Disruption Implementation Group (PDIG) and Electricity Task Group (ETG) after the LFDD event on 9th August 2019. It was identified the need to optimise LFDD to disconnect adequate demand while maintaining connection to Distributed Energy Resources (DER) to support system frequency.

NGED's current project will move LFDD operation from Bulk Supply Points to lower voltage levels which provide increased granularity in our demand disconnection and maintain downstream DER connection.

This provides an opportunity for NGED to design a scheme with adequate demand disconnection while maintaining connection to pre-designated protected sites and Tier 1 Essential Services i.e hospitals.

Currently under OC6.1.5 NGED are unable to discriminate between consumers and offer these protections.

NGED are looking at proposing an amendment to OC6.1.5 to offer protections to pre-designated protected sites and Tier 1 Essential Services where feasible.

Rationalising the Grid Code of Balancing Code No. 4 (BC4) and Balancing Code No.5 (BC5)

Grid Code Development Forum – 5th February 2025

The Issue

- ❖ 27 November 2019 Ofgem letter sets out decision to ‘grant the Electricity System Operator a derogation from the use of the European platform for the exchange of balancing energy from the replacement reserve (RR) process’.
- ❖ At 11pm on 31 December 2020, the transition period ended and the United Kingdom left the EU single market and customs union and EU law ceases to apply to the UK.
- ❖ Final TCA meant that GB participation as a third country to exchange RR using Trans European Replacement Reserve ExchangeT(ERRE) in the way it was currently envisaged will not be permitted.
- ❖ In April 2021, the TSO National Grid ESO (Great Britain) gave notice to the TERRE Steering Committee on their will to exit the TERRE project, as part of the decision on Brexit and in line with the provision included in the Cooperation Agreement Ref to [TERRE \(entsoe.eu\)](https://entsoe.eu).
- ❖ BC4 and BC5 of the Grid Code are procedures which facilitate the participation of BM Participants in the TERRE market.
- ❖ NESO proposes to remove BC4 and BC5 from the Grid Code (GC) because they are not currently applicable and are redundant.

Proposed Next Steps

- ❖ To maintain an accurate Grid Code, NESO believes these redundant sections need to be rationalised.
- ❖ NESO would like to propose a Grid Code modification and for it to go straight to Code Administrator Consultation.
- ❖ Existing information will be archived, in case elements of it might be needed if GB were to rejoin the EU at some point in the future and if TERRE were to be resurrected.

Ask of GCDF

Provide feedback on the proposal presented or alternate suggestions

AOB



