

Public

# **GC0182: Metering Polarity**

**Workgroup 1, 15 September 2025**

**Online Meeting via Teams**

# WELCOME

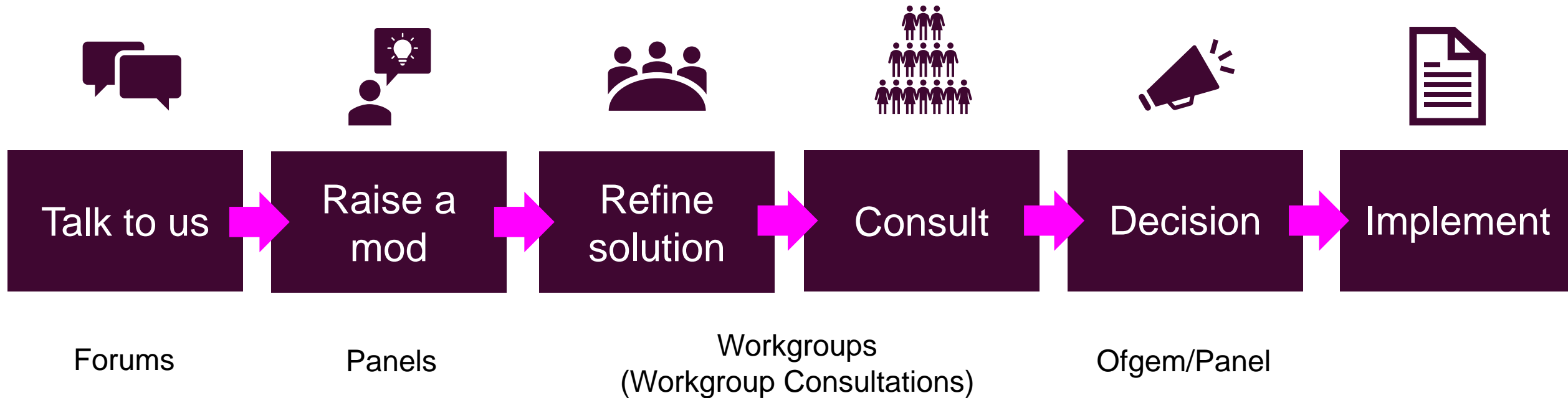
# Agenda

Topics to be discussed	Lead
Introductions	Chair
Code Modification Process Overview <ul style="list-style-type: none"><li>• Workgroup Responsibilities</li><li>• Workgroup Alternatives and Workgroup Vote</li></ul>	Chair
Objectives and Timeline <ul style="list-style-type: none"><li>• Walk-through of the timeline for the modification</li></ul>	Chair
Review Terms of Reference	All
Proposer presentation	Proposer
Legal Text Update	NESO Representative
Any Other Business	Chair
Next Steps	Chair

# Modification Process

Robert Hughes – NESO Code Administrator

# Code Modification Process Overview





# Refine Solution Workgroups



- If the proposed solution requires further input from industry in order to develop the solution, a Workgroup will be set up.
- The Workgroup will:
  - further refine the solution, in their discussions and by holding a **Workgroup Consultation**
  - Consider other solutions, and may raise **Alternative Modifications** to be considered alongside the Original Modification
  - Have a **Workgroup Vote** so views of the Workgroup members can be expressed in the Workgroup Report which is presented to Panel

# Consult Code Administrator Consultation

- The Code Administrator runs a consultation on the **final solution(s)**, to gather final views from industry before a decision is made on the modification.
- After this, the modification report is voted on by Panel who also give their views on the solution.





# Decision



- Dependent on the Governance Route that was decided by Panel when the modification was raised
- **Standard Governance:** Ofgem makes the decision on whether or not the modification is implemented
- **Self-Governance:** Panel makes the decision on whether or not the modification is implemented
  - an appeals window is opened for 15 days following the Final Self Governance Modification Report being published



# Implement

- The Code Administrator implements the final change which was decided by the Panel / Ofgem on the agreed date.



# Workgroup Responsibilities and Membership

Robert Hughes – NESO Code Administrator

## Expectations of a Workgroup Member

Contribute to the discussion

Be respectful of each other's opinions

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

Do not share commercially sensitive information

Be prepared - Review Papers and Reports ahead of meetings

Complete actions in a timely manner

Keep to agreed scope

Email communications to/cc'ing the .box email

## Your Roles

Help refine/develop the solution(s)

Bring forward alternatives as early as possible

Vote on whether or not to proceed with requests for Alternatives

Vote on whether the solution(s) better facilitate the Code Objectives



# Workgroup Membership

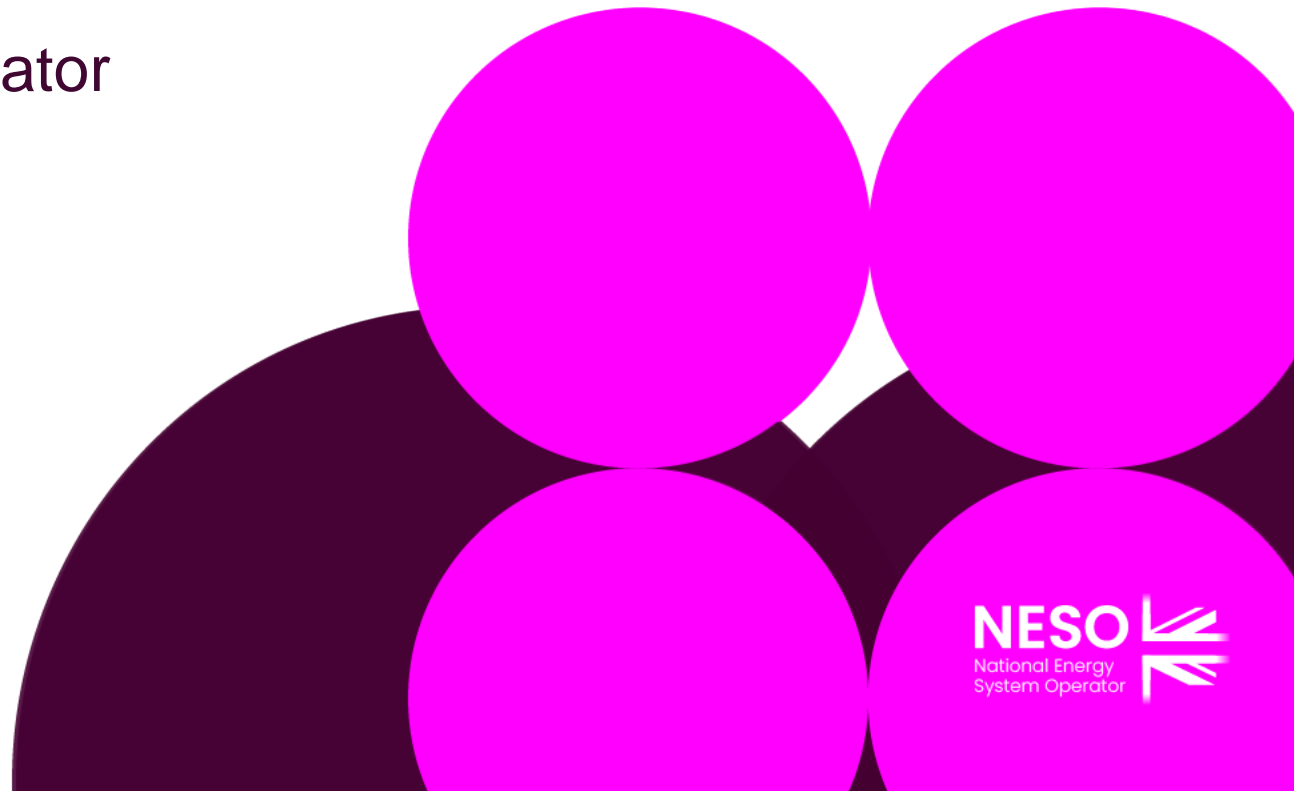
Role	Name	Company
Proposer	Thomas Goss	NESO
Workgroup Member	Hao Guo	NESO
Workgroup Member	Garth Graham	SSE Generation
Workgroup Member	Alan Creighton	Northern Powergrid
Workgroup Member	Andrew Allan	RWE
Workgroup Member	Harry Burns	EDF
Workgroup Member	Graeme Vincent	SP Transmission
Authority Representative	Paul Drew	OFGEM

# Workgroup Membership

Role	Name	Company
Observer	Roger Carter	Transmission Investment
Observer	Rhiannon Whitty	NESO
Observer	Angie Gwozdz	NESO
Observer	Aman Sharma	NESO
Observer	Elena Fry	NESO
Observer	Rebecca Coan	NESO
Observer	Tzvetomir Terzysky	NESO
Observer	Fatini Nur	NESO

# Workgroup Alternatives and Workgroup Vote

Robert Hughes – NESO Code Administrator





# What is the Alternative Request?

**What is an Alternative Request?** The formal starting point for a Workgroup Alternative Modification to be developed which can be raised up until the Workgroup Vote.

**What do I need to include in my Alternative Request form?** The requirements are the same for a Modification Proposal you need to articulate in writing:

- a description (in reasonable but not excessive detail) of the issue or defect which the proposal seeks to address compared to the current proposed solution(s);
- the reasons why you believe that the proposed alternative request would better facilitate the Applicable Objectives compared with the current proposed solution(s) together with background information;
- where possible, an indication of those parts of the Code which would need amending in order to give effect to (and/or would otherwise be affected by) the proposed alternative request and an indication of the impacts of those amendments or effects; and
- where possible, an indication of the impact of the proposed alternative request on relevant computer systems and processes.

**How do Alternative Requests become formal Workgroup Alternative Modifications?** The Workgroup will carry out a Vote on Alternatives Requests. If the majority of the Workgroup members or the Workgroup Chair believe the Alternative Request will better facilitate the Applicable Objectives than the current proposed solution(s), the Workgroup will develop it as a Workgroup Alternative Modification.

**Who develops the legal text for Workgroup Alternative Modifications?** NESO will assist Proposers and Workgroups with the production of draft legal text once a clear solution has been developed to support discussion and understanding of the Workgroup Alternative Modifications.

# Can I vote? And What is the Alternative Vote?

To participate in any votes, Workgroup members need to have attended at least 50% of meetings. The vote shall be decided by simple majority of those present at the meeting at which the vote takes place (whether in person or by teleconference)

## Stage 1 – Alternative Vote

- Vote on whether Workgroup Alternative Requests should become Workgroup Alternative CUSC Modifications.
- The Alternative vote is carried out to identify the level of Workgroup support there is for any potential alternative options that have been brought forward by either any member of the Workgroup OR an Industry Participant as part of the Workgroup Consultation.
- **Should the majority of the Workgroup OR the Chair believe that the potential alternative solution may better facilitate the CUSC objectives than the Original then the potential alternative will be fully developed by the Workgroup with legal text to form a Workgroup Alternative CUSC modification (WACM) and submitted to the Panel and Authority alongside the Original solution for the Panel Recommendation vote and the Authority decision.**

# Can I vote? And What is the Alternative Vote?

To participate in any votes, Workgroup members need to have attended at least 50% of meetings. The vote shall be decided by simple majority of those present at the meeting at which the vote takes place (whether in person or by teleconference)

## Stage 2 – Workgroup Vote

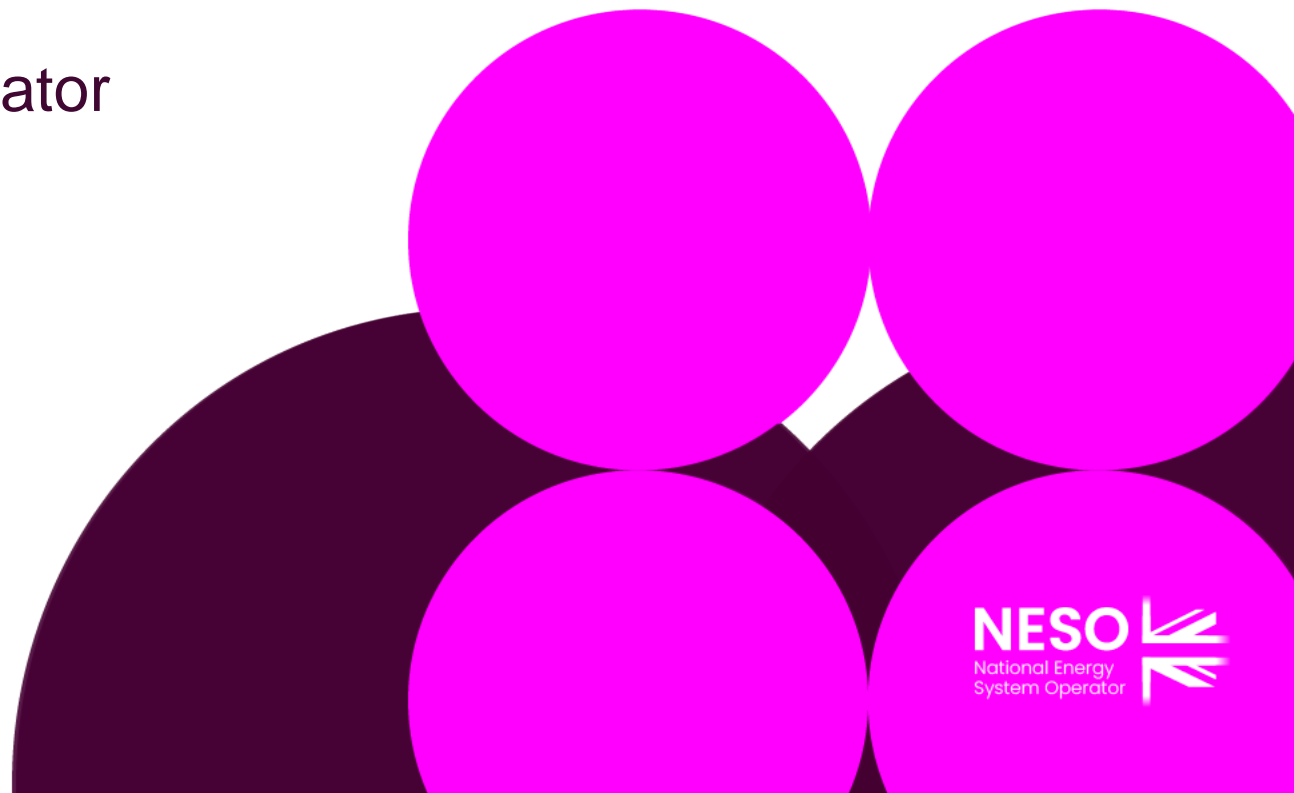
- 2a) Assess the original and Workgroup Alternative (if there are any) against the relevant Applicable Objectives compared to the baseline (the current code)
- 2b) Vote on which of the options is best.

Alternate Requests cannot be raised after the Stage 2 – Workgroup Vote



# Objectives and Timeline

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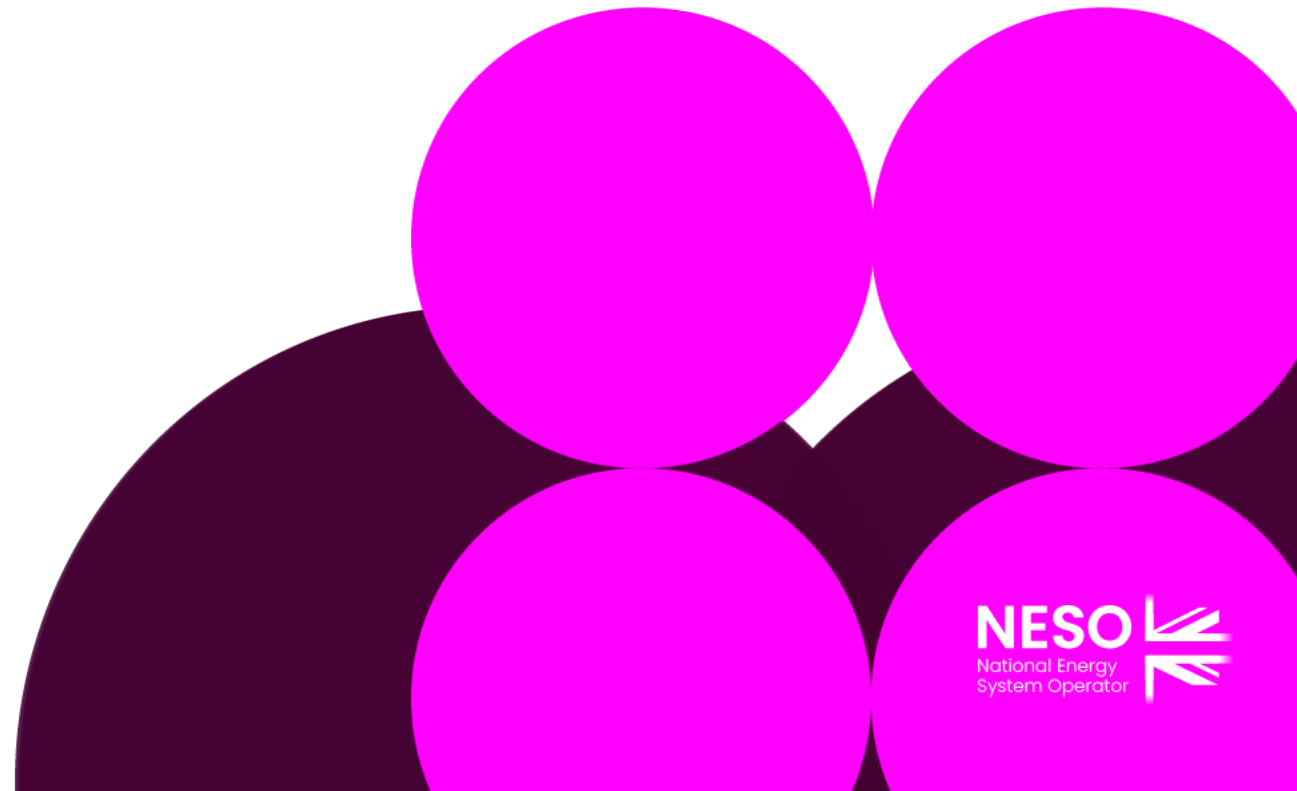
## Timeline for GC0182 as of 15 September 2025



Milestone	Date	Milestone	Date
Modification presented to Panel	24/07/25	Code Administrator Consultation	29/05/26 - 29/06/26
Workgroup Nominations (15 business days)	29/07/25 - 18/08/25	Draft Final Modification Report (DFMR) issued to Panel (5 business days)	22/07/26
Workgroups 1, 2 and 3	<ul style="list-style-type: none"> <li>15/09/25</li> <li>20/10/25</li> <li>25/11/25</li> </ul>	Panel undertake DFMR recommendation vote	30/07/26
Workgroup Consultation (21 business days)	09/12/25 - 09/01/26	Final Modification Report issued to Panel to check votes recorded correctly	31/07/26 - 10/08/26
Workgroups 4, 5 and 6	<ul style="list-style-type: none"> <li>20/01/26</li> <li>04/03/26</li> <li>14/04/26</li> </ul>	Final Modification Report issued to Ofgem	11/08/26
Workgroup report issued to Panel	13/05/26	Ofgem decision needed by	TBC
Panel sign off that Workgroup Report has met its Terms of Reference	21/05/26	Implementation Date	TBC

# Terms of Reference Discussion (Live)

Robert Hughes – NESO Code  
Administrator





# Terms of Reference

## Workgroup Terms of Reference

- a. Implementation and costs;
- b. Review draft legal text should it have been provided. If legal text is not submitted within the Grid Code Modification Proposal the Workgroup should be instructed to assist in the developing of the legal text;
- c. Consider whether any further Industry experts or stakeholders should be invited to participate within the Workgroup to ensure that all potentially affected stakeholders have the opportunity to be represented in the Workgroup. Demonstrate what has been done to cover this clearly in the report; and
- d. Consider implications to sections linked to the Regulated Sections of the Grid Code

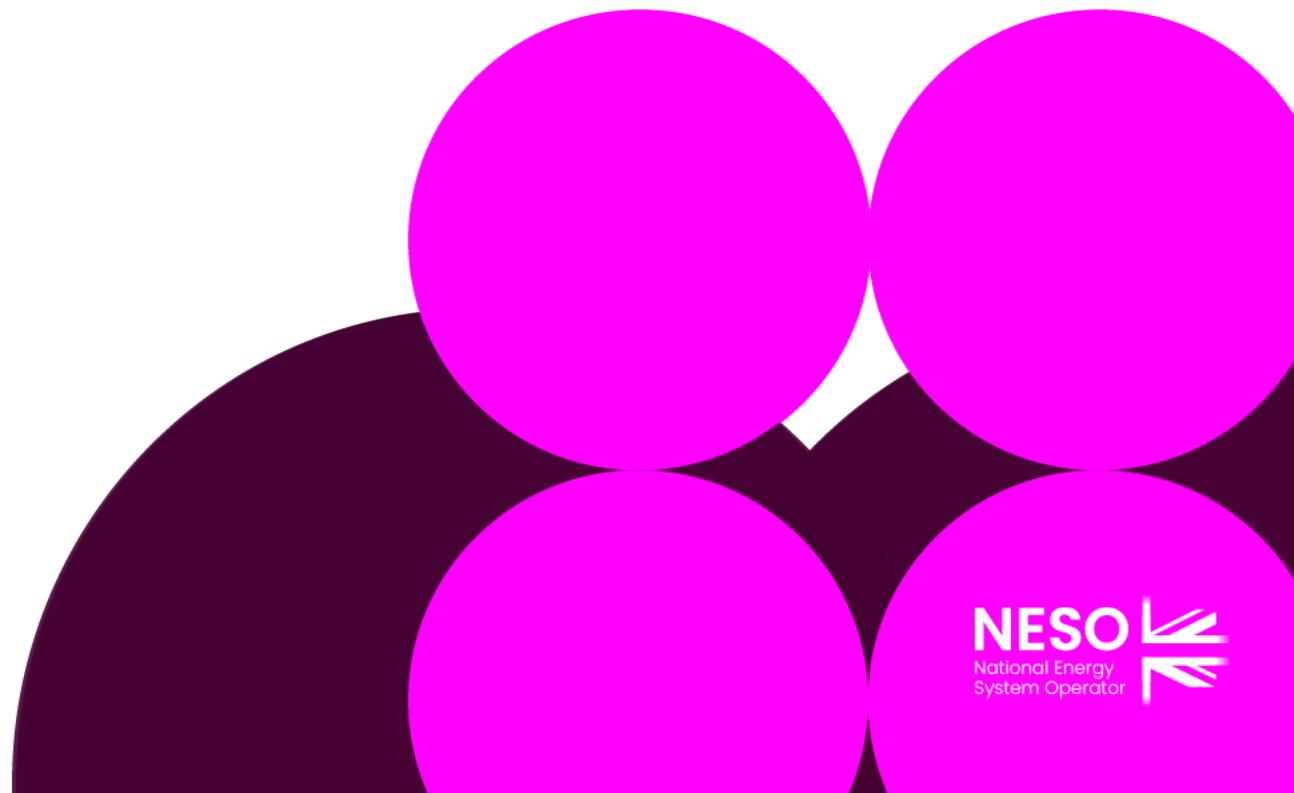
# Terms of Reference

## Workgroup Terms of Reference

- e. Consider the implementation arrangements of the new electrical standard considering Grid Code and BCA obligations. Implementation and costs;
- f. Consider the alignment of the Governance processes for the modification and the Electrical Standard; and
- g. Consider clarity on Power Flow (Active vs Reactive).

# Agree Terms of Reference (Live)

All



# Proposer Presentation

Pritesh Patel – NESO



# What is the Issue?

- **Issue**
  - “Incorrect/inconsistent” polarity for operational power flow metering data fed into the NESO SCADA system, for example negative instead of positive flow
- **Impact for NESO**
  - Deteriorating accuracy in NESO management system
  - Reduced State Estimation reliability impacting situational awareness
  - Reduced system security and potential SQSS breach due to less effective contingency analysis
  - Additional balancing costs incurred by less efficient output from downstream NESO balancing and forecast systems
- **Impact for other stakeholders**
  - Delay in setting up metering for new connections
  - Increased workload due to updating and correcting metering polarity
  - Delay in NESO’s decision making for outages and commissioning
  - Potential billing errors for settlements between NESO and energy providers



# Current Status and Effort

- **Current Status**

- No clear and unified power flow polarity standard in Grid Code for power flow data sent to NESO
- No clauses in the Grid Code or licence obligations requesting parties to follow a power flow polarity standard and parties may choose their own convention which is inconsistent with other parts of the network
- No clauses in the Grid Code requesting parties sending power flow metering with “incorrect” polarity to fix the issue

- **Current Effort**

- NESO regularly audits, investigates and fix meters with incorrect polarity internally, but any workaround fix is temporary and not sustainable
- NESO tries to establish communication channels with relevant parties to investigate and resolve the issues
- NESO has set up an informal working group aiming to seek solutions in terms of code, standard, policy and process changes

# Proposed Solution and Benefits

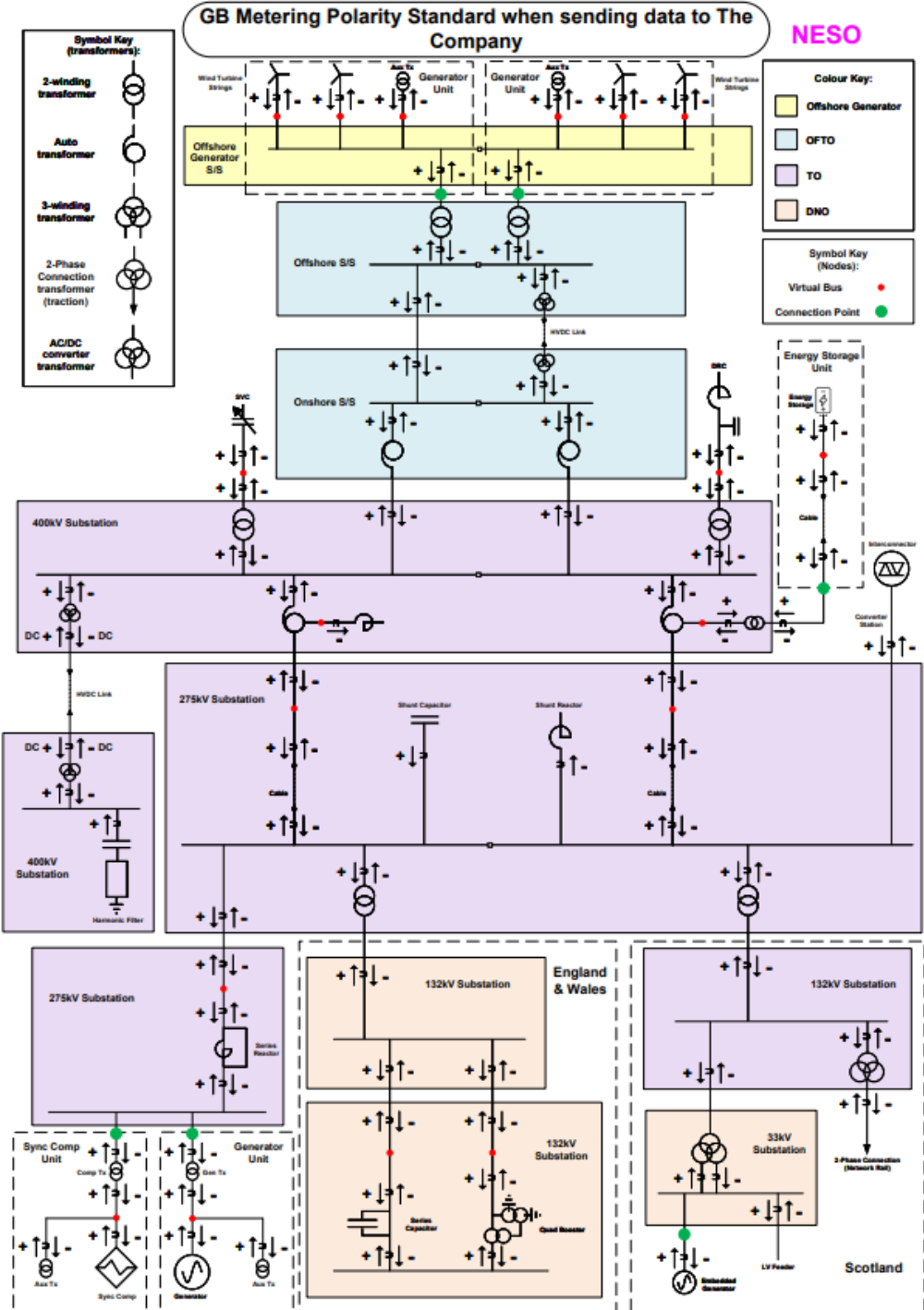
## Proposed Solution

- To develop a unified power flow polarity standard in the form of a diagram with an explanatory description
- To publish the diagram and description as an Electrical Standard, which will be referred in the relevant Grid Code clause (other codes will refer to the Grid Code)
- To improve/modify processes between NESO and other parties so that the standard will be followed and referenced when setting up new metering connections to NESO SCADA
- To ensure the polarity standard is followed during ongoing operation
- To implement for new connections only at this stage

## Benefits

- Improved situational awareness, system security, better forecasts and reduced balancing costs
- Reduce and/or mitigate iterations and delays for setting up new connections and approval for outage and commissioning
- Improved coordination, efficiency and transparency between NESO and other parties following the unified polarity standard and standardised process

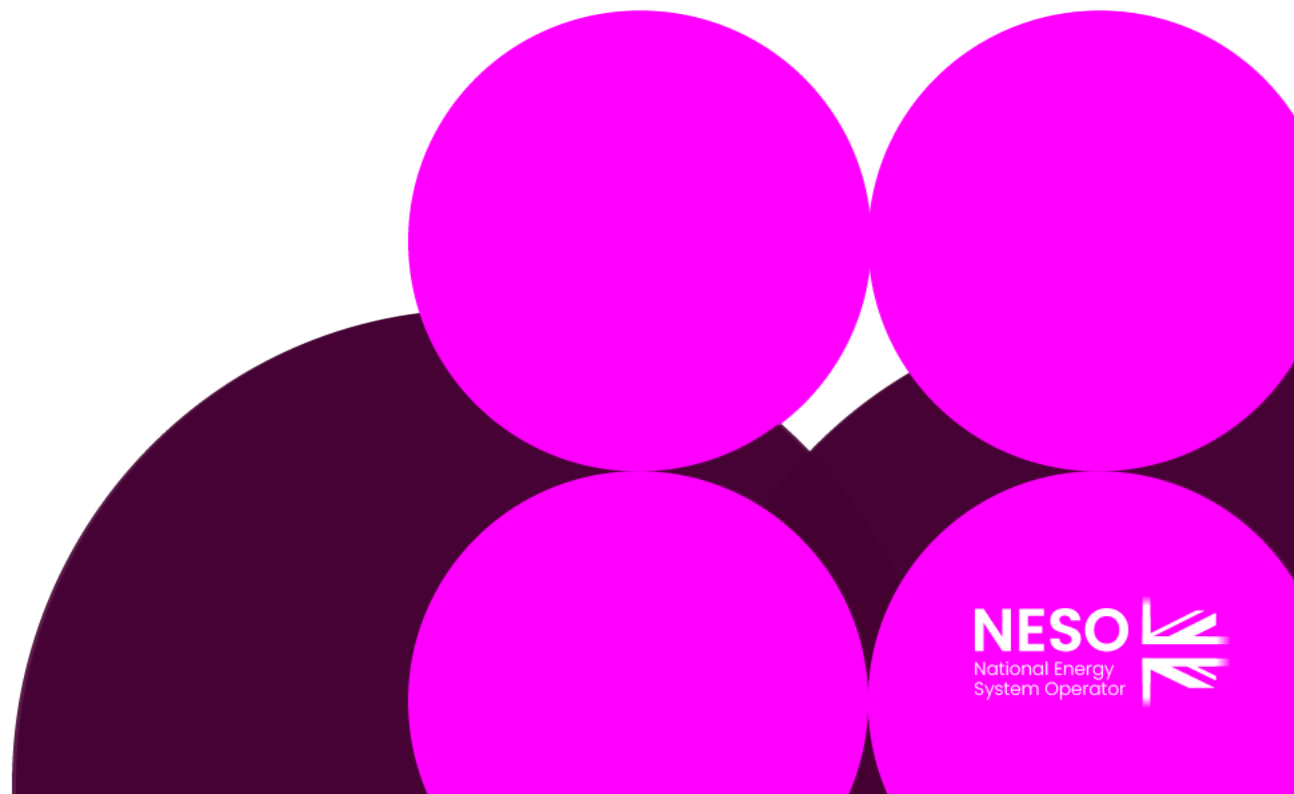
Metering Polarity Standard



NESO

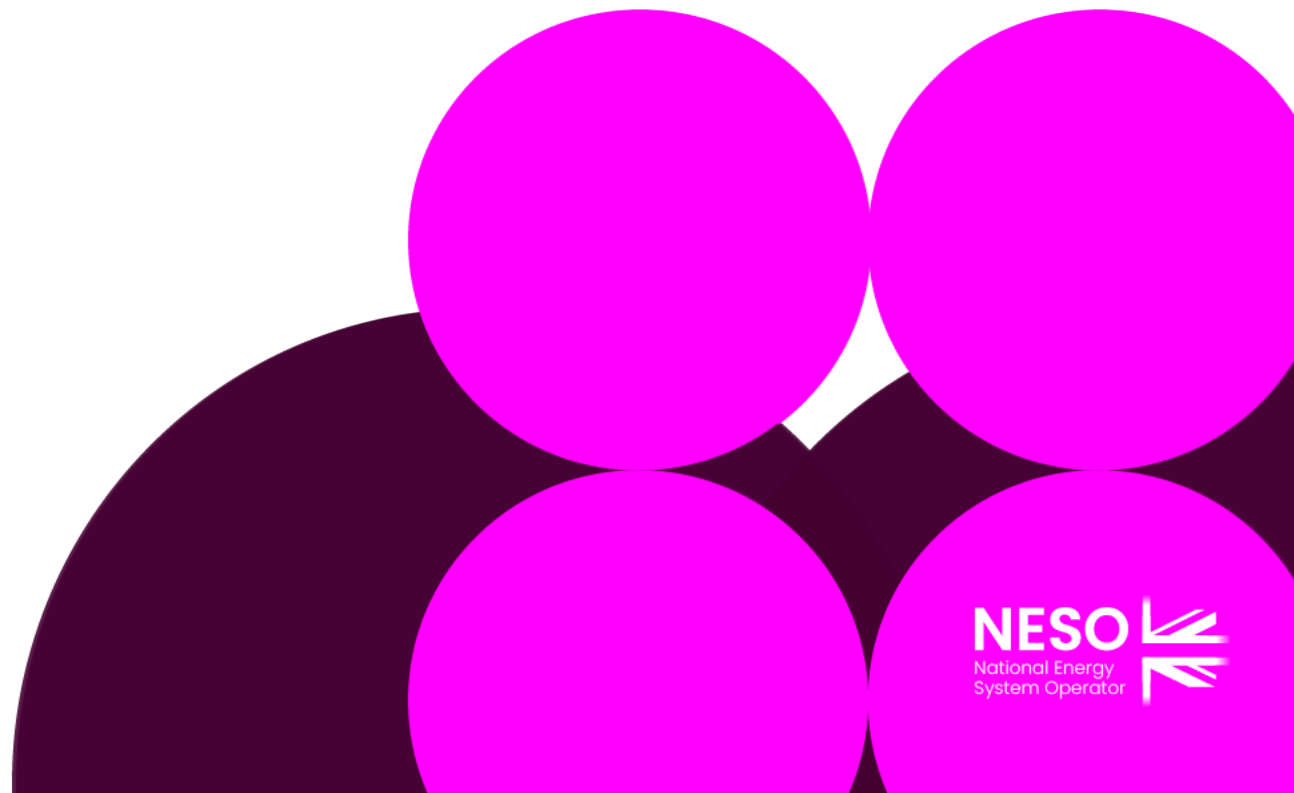
# Legal Text Update

Hao Guo – NESO



# Any Other Business

Robert Hughes – NESO Code  
Administrator





# Next Steps

Robert Hughes – NESO Code  
Administrator

