

# GC0178: Temporary Overvoltage – Specification of Limits and Clarification of Obligations

Workgroup 1, 29 July 2025

Online Meeting via Teams

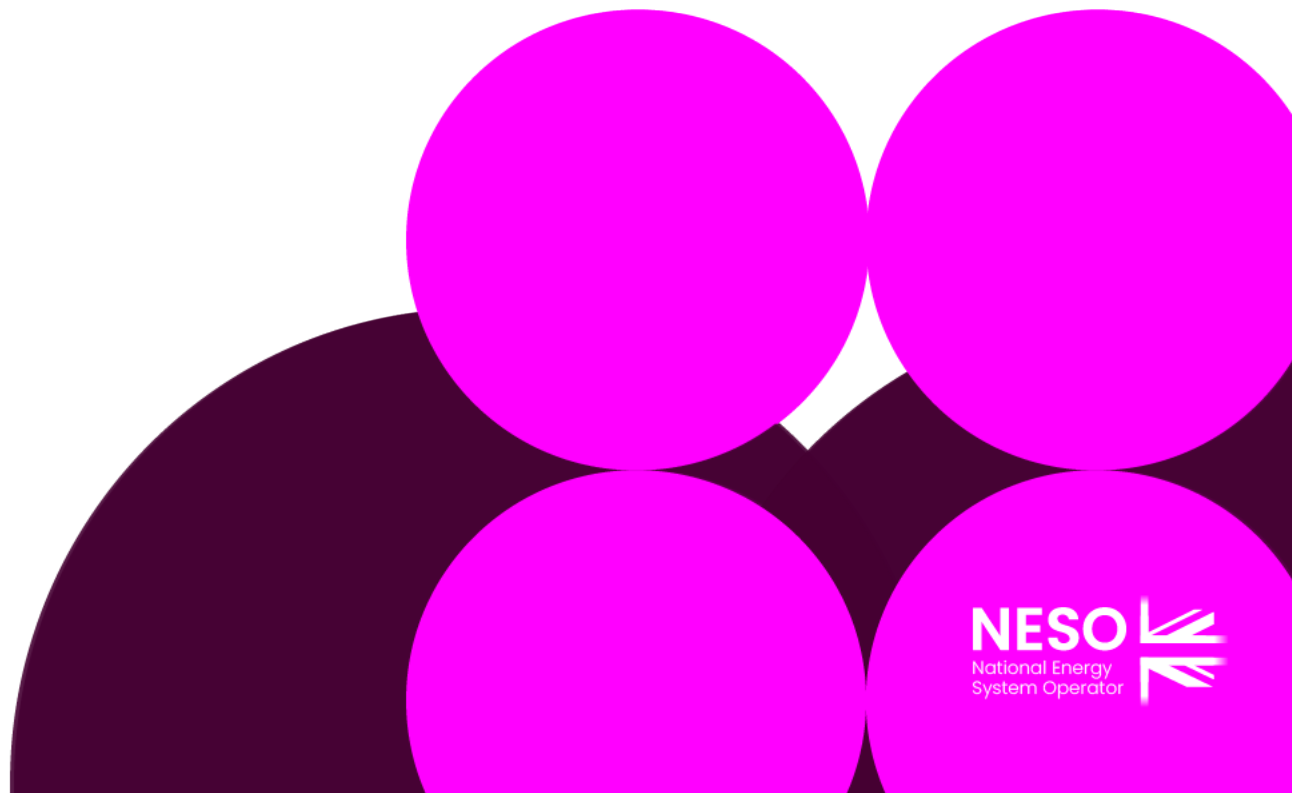
# WELCOME

# Agenda

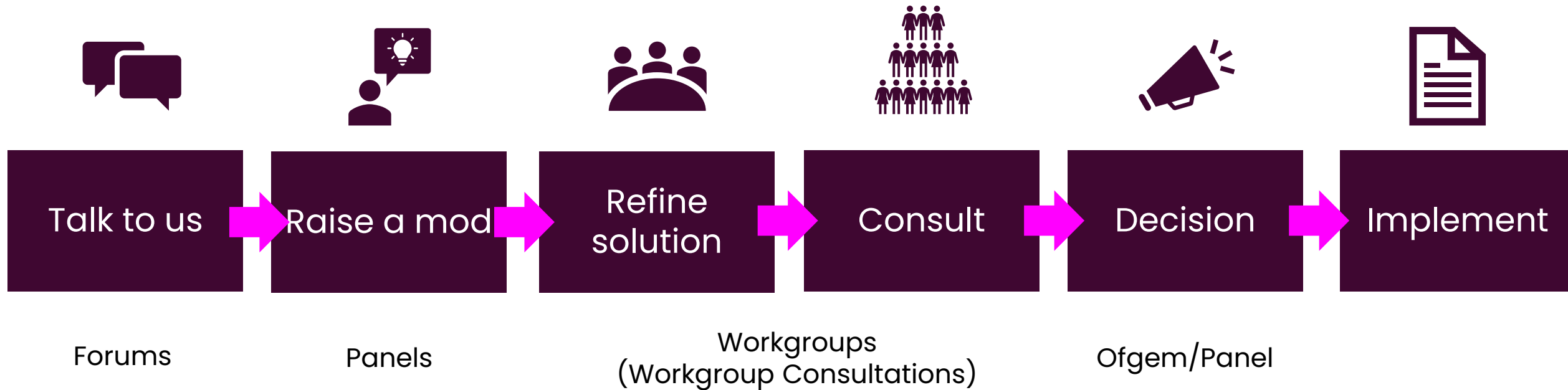
| Topics to be discussed   | Lead     |
|--|----------|
| Introductions  | Chair    |
| Code Modification Process Overview <ul style="list-style-type: none"> <li>• Workgroup Responsibilities</li> <li>• Workgroup Alternatives and Workgroup Vote</li> </ul> | Chair    |
| Objectives and Timeline <ul style="list-style-type: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

# Modification Process

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# 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

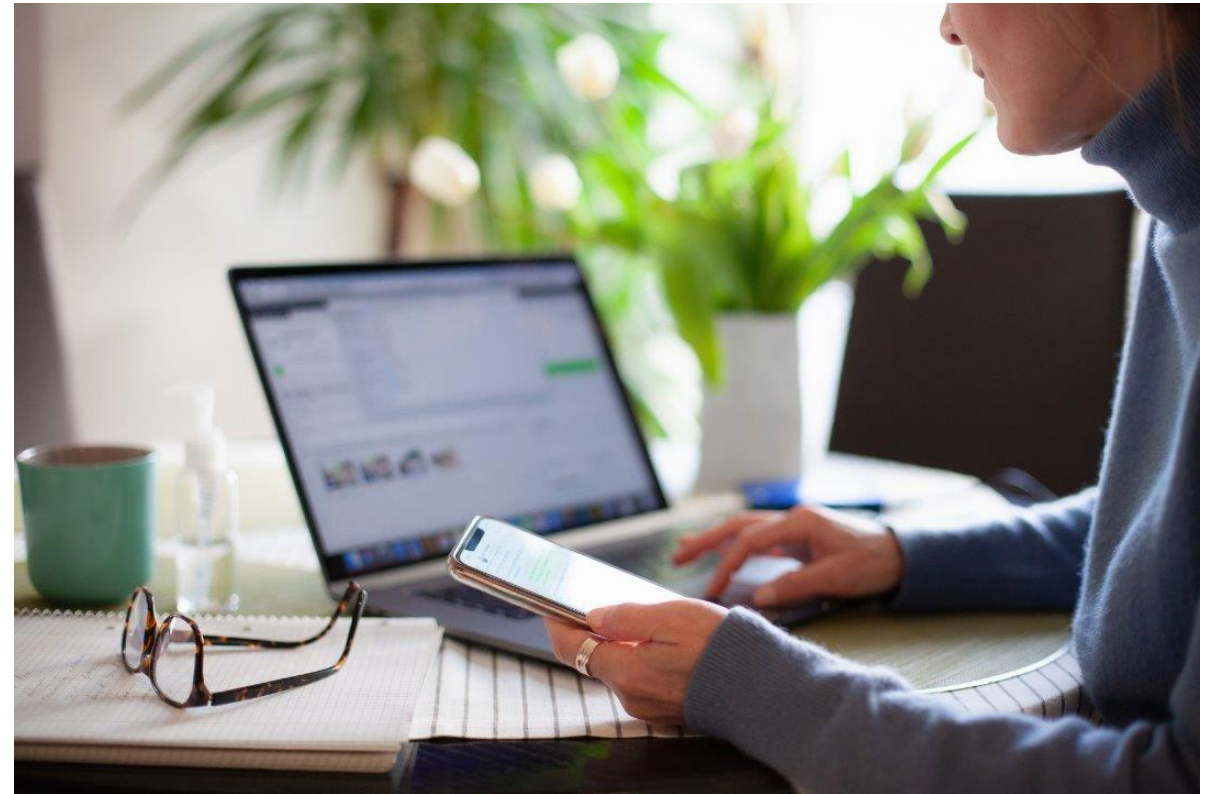


- Dependent on the Governance Route that was decided by Panel when the modification was raised
- **Standard Governance:** Ofgem makes the decision on whether or not the modification is implemented
- **Self-Governance:** Panel makes the decision on whether or not the modification is implemented
  - an 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

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## 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                   | Alternate        |
|------------------|-----------------------|---------------------------|------------------|
| Proposer         | Bieshoy Awad          | NESO                      |                  |
| Workgroup Member | Cornel Brozio         | SP Energy Networks        | Graeme Vicent    |
| Workgroup Member | Harry Burns           | EDF Renewables UK         | Bukky Daniel     |
| Workgroup Member | Isaac Gutierrez       | Scottish Power Renewables | Julie Richmond   |
| Workgroup Member | John Reilly           | EDF (Existing Nuclear)    | Alan Spiers      |
| Workgroup Member | Martin Aten           | Uniper                    | Sean Gauton      |
| Workgroup Member | Mzamoyabo Sibanda     | SSE Renewables            | John Hylands     |
| Workgroup Member | Nicola Barberis Negra | Orsted                    | Sridhar Sahukari |
| Workgroup Member | Paul Youngman         | Drax                      | Nina Sanghera    |
| Workgroup Member | Darshak Shah          | BP                        | N/A              |

# Workgroup Membership

| Role                     | Name              | Company                         | Alternate      |
|--------------------------|-------------------|---------------------------------|----------------|
| Observer                 | Owen Curran       | Siemens Gamesa Renewable Energy | Tobias Siepker |
| Observer                 | Murali Venkata    | Siemens Energy                  | Shafiu Ahmed   |
| Observer                 | Andrew Larkins    | Sygensys                        | N/A            |
| Observer                 | Mike Kay          | P 2 Analysis                    | N/A            |
| Observer                 | David Griffiths   | RWE Renewables                  | Wenyuan Wang   |
| Observer                 | Zulfiqar Ali Gill | EDF Energy NNB                  | N/A            |
| Authority Representative | Shilen Shah       | Ofgem                           |                |

# Workgroup Alternatives and Workgroup Vote

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# 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 Grid Code 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 Grid Code objectives than the Original then the potential alternative will be fully developed by the Workgroup with legal text to form a Workgroup Alternative Grid Code modification WAGCM** 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 Workgroup 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 GC0178 as of 29 July 2025

| Pre-Workgroup               |                                |
|-----------------------------|--------------------------------|
| Proposal raised             | 12 March 2025                  |
| Proposal Submitted to Panel | 27 March 2025                  |
| Workgroup Nominations       | 19 March 2025 to 27 March 2025 |

| Workgroups                    |                              | Objectives   |
|-------------------------------|------------------------------|--|
| Workgroup 1                   | 29 July 2025                 | Objectives and Timeline/ Review and Agree Terms of Reference / Proposer Presentation   |
| Workgroup 2                   | 10 September 2025            | Solution Development/ Workgroup Discussions  |
| Workgroup 3                   | 15 October 2025              | Solution Development/ Workgroup Discussions  |
| Workgroup 4                   | 12 November 2025             | Solution Development/ Workgroup Discussions  |
| Workgroup 5                   | 10 December 2025             | Solution Development/ Workgroup Discussions  |
| Workgroup 6                   | 14 January 2026              | Draft Workgroup Consultation Review/ Specific Questions / Draft Legal Text Review      |
| Workgroup 7                   | 18 February 2026             | Draft Workgroup Consultation Review/ Specific Questions / Draft Legal Text Review      |
| Workgroup 8                   | 18 March 2026                | Final Workgroup Consultation Review  |
| <b>Workgroup Consultation</b> | 23 March 2026 to 01 May 2026 |  |
| Workgroup 9                   | 27 May 2026                  | Review of Workgroup Consultation Responses/ Alternative Requests Discussion            |
| Workgroup 10                  | 17 June 2026                 | Review of Solution Position/ Alternative Requests Presentation and vote ( if required) |
| Workgroup 11                  | 15 July 2026                 | Draft Workgroup Report Review/ ToR discussion/ Draft Legal Text ( including WAGCMS)    |
| Workgroup 12                  | 05 August 2026               | Final Workgroup Report Review / Workgroup Vote   |

## Timeline for GC0178 as of 29 July 2025

| Post Workgroups                          |                                      |
|--|--------------------------------------|
| Workgroup Report submitted to Panel      | 19 August 2026                       |
| Panel to agree whether ToR have been met | 27 August 2026                       |
| Code Administrator Consultation          | 04 September 2026 to 05 October 2026 |
| Draft Final Modification Report to Panel | 21 October 2026                      |
| Panel Recommendation Vote                | 29 October 2026                      |
| Final Modification Report to Ofgem       | 16 November 2026                     |
| Decision Date                            | TBC                                  |
| Implementation Date                      | TBC                                  |



# Review Terms of Reference

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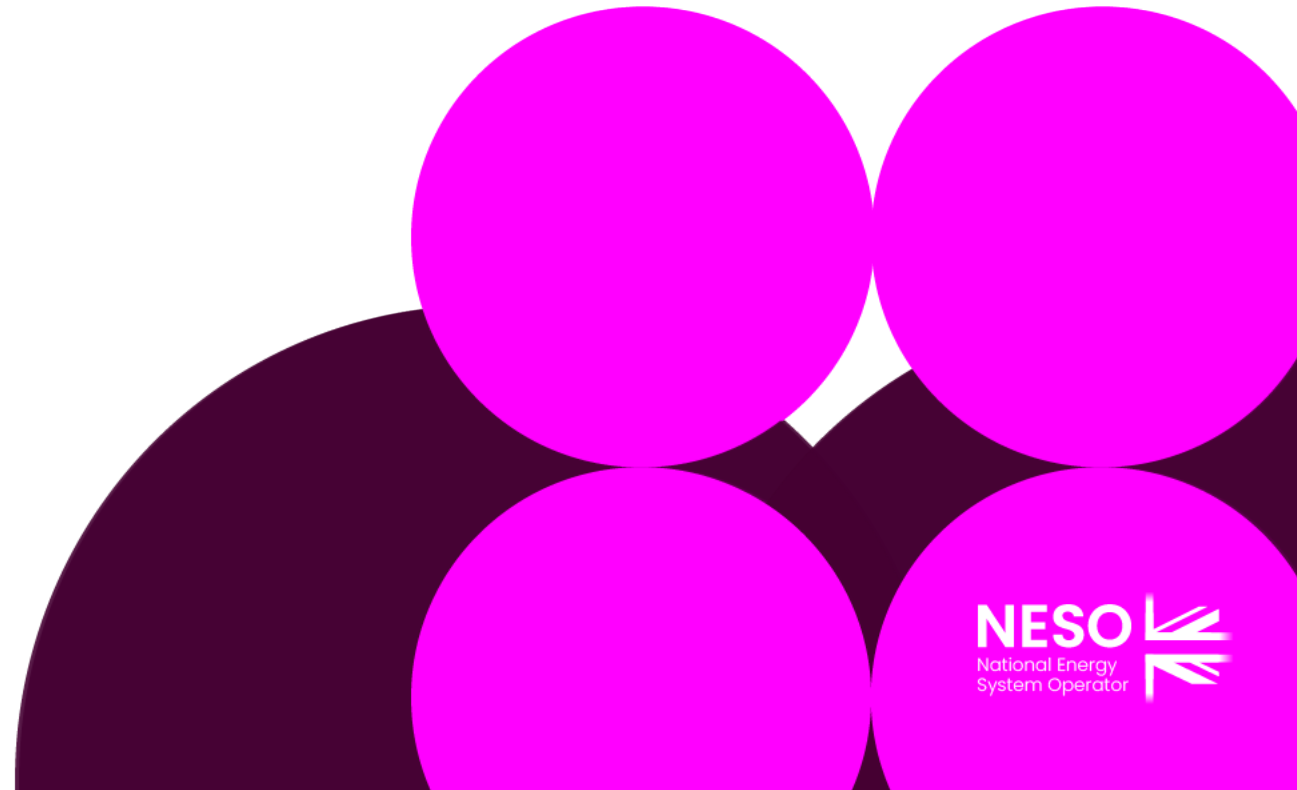
# Terms of Reference

## Workgroup Term of Reference

- a) Implementation and costs including, but not limited to detailed CBA assessment for change of design for Users of the code and for TOs;
- b) Review and develop draft 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;
- d) Consider implications to sections linked to the Regulated Sections of the Grid Code;
- e) Define appropriate limits for temporary overvoltage, both in terms of magnitude and duration, based on system needs assessment. The limits should cover both the temporary overvoltages imposed on the User by the System, and temporary overvoltages imposed on the System by the User;
- f) Clarify the requirements on how plant need to perform during temporary overvoltage in terms of reactive support, ride through, and otherwise under consideration of existing design standards and capabilities;
- g) Consider how compliance with temporary overvoltage requirements applicable to generation plant would be assessed;
- h) Where possible, ensure the proposal does not require unnecessary modifications to existing Plant (including for TOs and Users).
- i) Consider the suitability of a cost recovery mechanism and any investment required by existing Users.
- j) Assess the suitability of a derogation mechanism for applicable Users.

# **Proposer's Solution: Background; Proposed Solution; Scope; and Assessment vs Terms of Reference**

Bieshoy Awad– NESO

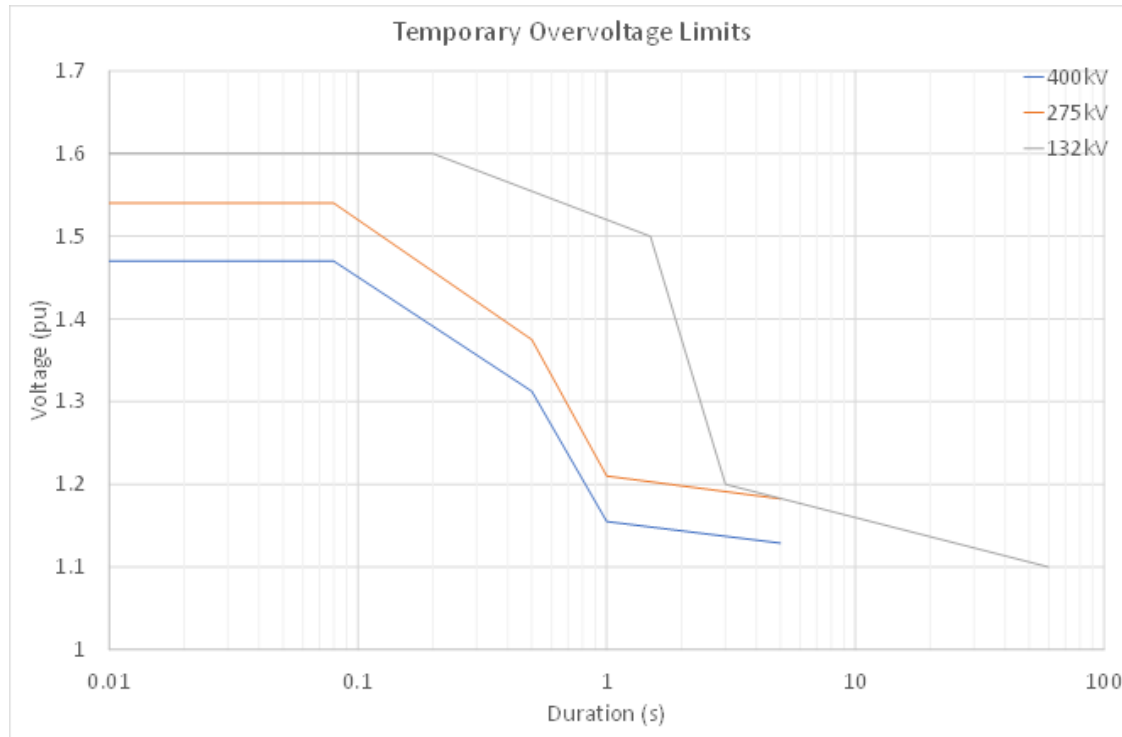


# Proposal Outline

- Specify overvoltage limits as a system parameter to be maintained by TOs and NESO.
- Explicitly specify obligations on Users during an overvoltage (post fault or otherwise)
  - Ride through
  - Voltage regulation during overvoltage
  - Any other obligations
- Potentially, discussion of generation compliance studies required.
- Ensure consistent treatment across the generation fleet but provide means to delay/avoid significant modifications to Users' plant unless/until necessary.



# Overvoltage Limits



- Scope of CC.6.1.7 and ECC.6.1.7 extended to cover unplanned events
- Overvoltage limits to be specified in these two clauses
- Limits to be considered
  - TGN288 – Starting point
  - RfG
  - Other reasonable alternatives
- Limits apply at transmission voltage – Other voltages to be inferred

# Fault Ride Through Requirements

- CC.6.1.7/ ECC.6.1.7 limits to be referred to in fault ride through sections
- All generation plant
  - Relieved from the requirement to ride through a post fault overvoltage above the limit specified
  - Explicitly required to ride through an overvoltage up to the limit specified
- New generation plant
  - Required to be designed to ride through an overvoltage/post fault overvoltage equal to the limit specified.

# Impact on Existing Plant

- Generators to maximise their plant ride through via exploring any untapped capability.
- Modification to existing generation plant to be minimised and to be implemented only if and when required
- Exploring opportunities for measures other than modifications to Generators' plant (e.g. one-off works and restrictions during certain outage conditions) if mitigation costs are excessive.
- Cost recovery mechanisms to be discussed (however, this is not a Grid Code issue)

# Agree Terms of Reference

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# Terms of Reference

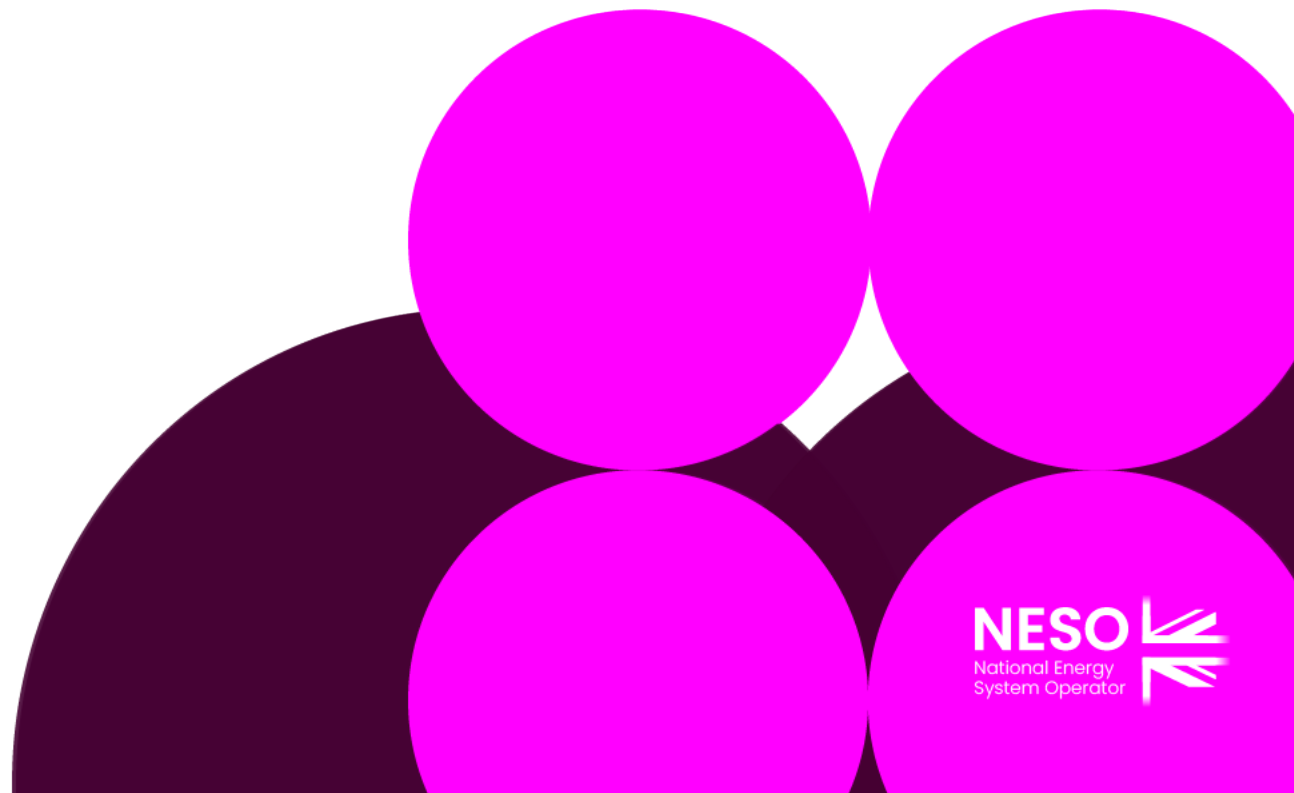
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# Cross Code Impacts

Catia Gomes– NESO Code Administrator



# Any Other Business

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# Next Steps

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