

# **CMP446 Increasing the lower threshold in England and Wales for Evaluation of Transmission Impact Assessment**

Workgroup Meeting 9, 26 February 2025

Online Meeting via Teams

# WELCOME

# Agenda

Topics to be discussed	Lead
Welcome	Chair
Actions update	Proposer
Workgroup Report and Legal Text Review	Chair
Terms of Reference Sign off	Chair
Workgroup Vote	Chair
Any Other Business	All
Next Steps	Chair

# 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	Eligibility to Vote
Proposer	Martin Cahill	NESO	Eligible
Workgroup Member	Brian Hoy	Electricity North West	Eligible
Workgroup Member	Ciaran Fitzgerald	Scottish Power Renewables	Eligible
Workgroup Member	Dan Clarke	National Grid Electricity Transmission (nominated by NESO)	Eligible
Workgroup Member	Drew Johnstone	Northern Powergrid	Eligible
Workgroup Member	Garth Graham	SSE Generation	Eligible
Workgroup Member	Grant Rogers	Qualitas Energy	Eligible
Workgroup Member	Helen Stack	Centrica	Eligible
Workgroup Member	Jack Purchase	National Grid Electricity Distribution	Eligible
Workgroup Member	Joe Colebrook	Innova Renewables	Eligible
Workgroup Member	Kate Teubner	Low Carbon	Eligible
Workgroup Member	Kyran Hanks	WWA (nominated as a CUSC Panel Member)	Eligible
Workgroup Member	Nina Sharma	Drax	Eligible
Workgroup Member	Ross O'Hare	SSEN	Eligible
Workgroup Member	Zivanayi Musanhi	UK Power Networks	Eligible
Authority Representative	Alasdair MacMillan	Ofgem	N/A

# 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?** ESO 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.

# Timeline for CMP446 on 25 February 2025

Workgroups		High Level Objectives
CMP446 Workgroup Meeting 1	24/01/2025	Full solution and ToR assessment
CMP446 Workgroup Meeting 2	30/01/2025	Any Alternative requests suggestion/ Review of Workgroup Consultation
CMP446 Workgroup Meeting 3	03/02/2025	Review of Workgroup Consultation / Contingency
CMP446 Workgroup Meeting 4	05/02/2025	Workgroup Consultation Review
CMP446 Workgroup Meeting 5	06/02/2025	Workgroup Consultation Review
CMP446 Workgroup Consultation	07/02/2025 - 13/02/2025	
CMP446 Workgroup Meeting 6	19/02/2025/ and 20/02/2025	Workgroup Consultation feedback and any Alternative votes
CMP446 Workgroup Meeting 7		
CMP446 Workgroup Meeting 8	24/02/2025	WACM clarification and legal text discussion
<b>CMP446 Workgroup Meeting 9</b>	<b>26/02/2025</b>	<b>ToR confirmation and Workgroup Vote</b>
CMP446 Contingency Meeting	27/02/2025	Contingency for Workgroup Report review
CMP446 Workgroup Report to Panel	05/03/2025	
CMP446 Panel for ToR sign off	10/03/2025	
Post Workgroups		
CMP446 Code Administrator Consultation	10/03/2025 - 17/03/2025	
CMP446 Draft Final Modification Report to Panel	24/03/2025	
CMP446 Panel Recommendation Vote	28/03/2025	
CMP446 Final Modification Report to Panel to check Votes	28/03/2025	
CMP446 Final Modification to Ofgem	28/03/2025	
CMP446 Decision Date	29/04/2025	
CMP446 Implementation Date	02/05/2025	

# Terms of Reference

## Workgroup Term of Reference

- |    |  |
|----|--|
| a) | Consider EBR implications  |
| b) | Consider the scope of work identified and whether this is achievable within the timeframe outlined in the Ofgem Urgency decision letter.   |
| c) | Consider the legal and practical implementation of this modification alongside CMP434/CMP435 and any other relevant in flight CUSC modifications.  |
| d) | Consider any cross-code impacts.   |
| e) | Consider data and any other requirements from DNOs to implement  |
| f) | Consider how CMP446 would be compatible with the requirement for the NESO acting in a non-discriminatory manner  |
| g) | Consider how CMP446 would be compatible with the requirement for harmonised rules for generator connections in GB.   |
| h) | Consider what the MW capacity relates to: for example, export capacity or installed capacity or developer capacity?  |
| i) | Consider if the change applies only to new projects (up to 5MW) or also to existing D connected projects that increase their capacity by up to 5MW (4MW to 6MW), and projects that reduce to be below the threshold. |
| j) | Consider potential for interlinked impact of cumulative/aggregated <5MW projects which would otherwise breach the proposed 5MW threshold.  |
| k) | Consider the interaction with Technical (Planning) limits and Distribution (DNO) managed Active Network Management (ANM) schemes   |



# Public Actions

Action number	Action	Status
33	Proposer to consider the inclusion of Trade Associations in the Communications Plan.	Propose to Close
36	In relation to the 5 MW threshold in the Original Proposal, the Proposer will issue updated Legal Text that clarifies the decimal point issue.	Propose to Close – in slides
38	Adjust the table of scenarios to clearly define the MW ranges, specifically changing the middle row to "1 to less than 5 MW" and the bottom row to "equal to or greater than 5 MW"	Propose to Close – in slides
39	Consider including a note in the report about the possibility of quicker responses for 1 to 5 MW connections if no works are required, as suggested by a Workgroup member, who will provide wording.	Propose to Close – in slides
40	Check if the definition of fault level headroom at the T to D boundary is captured in Appendix G or if it needs to be included in the legal text.	Propose to Close
41	Review the wording "it is acknowledged that" to ensure that wording is clear and concise .	Propose to Close – in slides
42	Double-check the definitions to ensure the correct use of "relevant embedded small power station."	Propose to Close – in slides
43	Ensure the legal text does not conflict with CMP434/435 and consider a tidy-up exercise if needed.	Propose to Close – in slides
44	Add a footnote or additional text to the scenarios table to clarify the processes around fault level headroom and the requirement for a TIA if there is not sufficient headroom.	Propose to Close – in slides
45	Update the scenarios table in the Workgroup Report to reflect the WACM1 approach, which uses export capacity, as well as the Original Proposal.	Propose to Close – in slides
46	Finalise a definition for export capacity to be used in section 11	Open – in slides
47	The Workgroup requested further rationale of how the 25 MW cap was calculated. The Proposer of WACM3 and WACM4 took an action to confirm this.	Propose to Close – in slides
48	Draft legal text, ensuring it clearly defines the cap and its application for WACM3 and WACM4.	Propose to Close – in slides

# Action 36

In relation to the 5 MW threshold in the Original Proposal, the Proposer will issue updated Legal Text that clarifies the decimal point issue.

Do not propose to change further as believe this is clear enough:

- Legal Text uses Registered Capacity as per Grid Code to determine TIA
- Output of Registered Capacity via Grid Code is a number given to one decimal place (e.g. 4.96MW site will have a Registered Capacity of 4.9MW according to Grid Code definition
- Grid Code is also clear on how numbers should be rounded

*(G2) (xii) (a) Save where (b) below applies, where there is a reference to an item of data being expressed in a whole number of MW, fractions of a MW below 0.5 shall be rounded down to the nearest whole MW and fractions of a MW of 0.5 and above shall be rounded up to the nearest whole MW; (b) In the case of the definition of Registered Capacity or Maximum Capacity, fractions of a MW below 0.05 shall be rounded down to one decimal place and fractions of a MW of 0.05 and above shall be rounded up to one decimal place.*

*(c) In the case of a Power Station, the maximum amount of Active Power deliverable by the Power Station at the Grid Entry Point (or in the case of an Embedded Power Station at the User System Entry Point), as declared by the Generator, expressed in whole MW, or in MW to one decimal place. The maximum Active Power deliverable is the maximum amount deliverable simultaneously by the Power Generating Modules and/or Generating Units and/or CCGT Modules and/or Power Park Modules less the MW consumed by the Power Generating Modules and/or Generating Units and/or CCGT Modules in producing that Active Power and forming part of a Power Station.*

# Actions 38, 39, 45

38 – Adjust the table of scenarios to clearly define the MW ranges, specifically changing the middle row to "1 to less than 5 MW" and the bottom row to "equal to or greater than 5 MW"

39 – Consider including a note in the report about the possibility of quicker responses for 1 to 5 MW connections if no works are required, as suggested by a Workgroup member, who will provide wording.

Public

\* Note, if CMP 434 is approved, there are provisions in the legal drafting for NESO to inform the DNO if no work is deemed necessary more quickly than going through the Appendix G process. There may therefore be circumstances where a quicker confirmation for the 1 to 5MW that they can connect.

45– Update the scenarios table in the Workgroup Report to reflect the WACMI approach, which uses export capacity, as well as the Original Proposal.

	Current CUSC Baseline – less than 1kA Headroom	CMP446 – less than 1kA Headroom	Current CUSC Baseline – more than 1kA Headroom	CMP446 – more than 1kA Headroom
Less than 1MW	No TIA required, not included in Appendix G.  Note may be subject to other mitigations set by DNO e.g. delay until works to address fault level completed	No TIA required, not included in Appendix G.  Note may be subject to other mitigations set by DNO e.g. delay until works to address fault level completed	No TIA required, not included in Appendix G.	No TIA required, not included in Appendix G.
Between 1 and 5MW (4.94MW max)	Must go through TIA process before connecting, included in Appendix G* and classed as Relevant Power Station	Must go through TIA process before connecting, included in Appendix G* and classed as Relevant Power Station	Must go through TIA process before connecting, included in Appendix G* and classed as Relevant Power Station	No TIA required, not included in Appendix G.
5MW and above	Must go through TIA process before connecting, included in Appendix G and classed as Relevant Power Station	Must go through TIA process before connecting, included in Appendix G and classed as Relevant Power Station	Must go through TIA process before connecting, included in Appendix G and classed as Relevant Power Station	Must go through TIA process before connecting, included in Appendix G and classed as Relevant Power Station

[CMP434/CMP435 commentary]

# Actions 41, 42, 43 Original Legal Text

Review the wording "it is acknowledged that" to ensure that wording is clear and concise

**This has been updated**

Double-check the definitions to ensure the correct use of "relevant embedded small power station."

**Current definitions work as Embedded Medium Power station is already classed as Relevant by existing definitions**

Ensure the legal text does not conflict with CMP434/435 and consider a tidy-up exercise if needed.

**This is reason for adding in (f), tidy up exercise likely to be required as per CMP434/CMP435 interactions section of draft workgroup report**

(f) In England and Wales, an **Embedded Small Power Station** which has a **Registered Capacity** of 5MW or above or (if there is less than 1kA of fault level headroom as set out in the Appendix G for the relevant **Grid Supply Point** at the time of the submission of an **Evaluation of Transmission Impact**) 1MW or above is a **Relevant Embedded Small Power Station** requiring the submission of an **Evaluation of Transmission Impact** to **The Company** in accordance with Paragraph 5.1(a) above."

"**Relevant Embedded Medium Power Station**" an **Embedded Medium Power Station** which is an **Exempt Power Station**, and does not intend to be the subject of a **Bilateral Agreement**;

"**Relevant Embedded Small Power Station**" an **Embedded Small Power Station** that the **User** who owns or operates the **Distribution System** to which the **Embedded Small Power Station** intends to connect reasonably believes may have a significant system effect on the **National Electricity Transmission System**;

# Action 44

Add a footnote or additional text to the scenarios table to clarify the processes around fault level headroom and the requirement for a TIA if there is not sufficient headroom.

Figure 2 and Figure 3 below (and **Annex 7**) outline these scenarios at a high level. [These examples assume that there is no fault level headroom issues at the GSP, please see "Impact of Fault Level Headroom on the solutions" section of this report for more information on how the process changes when there are fault level headroom issues.](#) It includes the existing capacity (with 0MW for completely new connection examples), and two different definitional ways of assessing whether the project meets the requirement for a TIA:

**Assumptions:**

The term "existing connection" means sites which are already energised or are have a contracted DNO connection offer but not yet energised  
All of the scenarios listed assume that there are no fault level issues at GSP, where fault level issues are known a TIA must take place  
All of the scenarios listed also apply to existing demand connections seeking to add generation



# Action 46 – WACM1 Legal Text

(f) In England and Wales, an **Embedded Small Power Station** which has a **Export Capacity** of 5MW or above or (if there is less than 1kA of fault level headroom as set out in the Appendix G for the relevant **Grid Supply Point** at the time of the submission of an **Evaluation of Transmission Impact**) 1MW or above is a **Relevant Embedded Small Power Station** requiring the submission of an **Evaluation of Transmission Impact to The Company** in accordance with Paragraph 5.1(a) above.”

## Section 11:

Export Capacity - The maximum continuous Apparent Power and Active Power expressed in MW which can flow from a Power Station connected to a Network Operator's User System, which is connected to the NETS.

Possible changes (NESO suggested):

**Export Capacity** – For the purpose of paragraph 6.5.1(f) **Export Capacity** is the maximum continuous **Active Power** expressed in MW which can flow from a **Power Station** to a **Distribution System**

# Action 47 – WACM3 and WACM4

Propose a limit of 25 MW of 1-5 MW projects per GSP per 5-year period (e.g. first period = 2026-2030; second period = 2031-2035; etc). This is equivalent to one 4.9 MW project per GSP per year, based on the threshold of 5 MW – or multiple smaller projects.

We consider that 4.9 MW of projects per GSP per year is likely to have a limited impact on the transmission system (including Super Grid Transformers). If there was more time, then we would have sought to derive a more sophisticated cap, perhaps taking into account the capacity of each GSP. However, there is not sufficient time within the urgency timeline to allow this. This could be introduced a later stage through a future Modification if desired.

The first project that causes the cap to be exceeded would be counted as being within the cap. For example:

- If there are 6 x 4 MW projects contracted (sum = 24 MW) at a GSP, then
- A new 4.9 MW would be allowed to benefit from the higher 5 MW threshold, as the cap is currently not exceeded.
- This would take the total at that GSP to 28.9 MW, and thus the cap is now considered exceeded.
- Any subsequent 1-5 MW project would have to choose between one of the 2 options outlined above (enter the TIA process or connect in the following 5-year period).

# Action 48 – WACM3/4 Legal Texts

## WACM3

Same as the Original but with an additional test based on the cumulative Registered Capacity of 1-5 MW schemes at that GSP.

(f) In England and Wales, an Embedded Small Power Station is a Relevant Embedded Small Power Station requiring the submission of an Evaluation of Transmission Impact to The Company in accordance with Paragraph 5.1(a) if the Embedded Small Power Station has a Registered Capacity of:

\*(f.i) 5MW or above; or

\*\* (f.ii) If there is less than 1kA of fault level headroom as set out in the Appendix G for the relevant Grid Supply Point at the time of the submission of an Evaluation of Transmission Impact) = 1MW; or

\*\*\* (f.iii) If the sum of the Registered Capacities of Embedded Small Power Stations with a Registered Capacity of between 1 MW and 5 MW contracted to connect or connected under a GSP in a 5-year period (2026-2030, 2031-2035, etc) has exceeded 25 MW = 1 MW.

## WACM4

Same as WACM 3 but with Export Capacity instead of Registered Capacity.

(f) In England and Wales, an Embedded Small Power Station is a Relevant Embedded Small Power Station requiring the submission of an Evaluation of Transmission Impact to The Company in accordance with Paragraph 5.1(a) if the Embedded Small Power Station has an Export Capacity of:

\*(f.i) 5MW or above; or

\*\* (f.ii) If there is less than 1kA of fault level headroom as set out in the Appendix G for the relevant Grid Supply Point at the time of the submission of an Evaluation of Transmission Impact) = 1MW; or

\*\*\* (f.iii) If the sum of the Export Capacities of Embedded Small Power Stations with a Export Capacity of between 1 MW and 5 MW contracted to connect or connected under a GSP in a 5-year period (2026-2030, 2031-2035, etc) has exceeded 25 MW = 1 MW.

Public

# Actions not included in slides

Action number	Action	Status
33	Proposer to consider the inclusion of Trade Associations in the Communications Plan.	Propose to Close
40	Check if the definition of fault level headroom at the T to D boundary is captured in Appendix G or if it needs to be included in the legal text.	Propose to Close

# WACM2 Legal Text

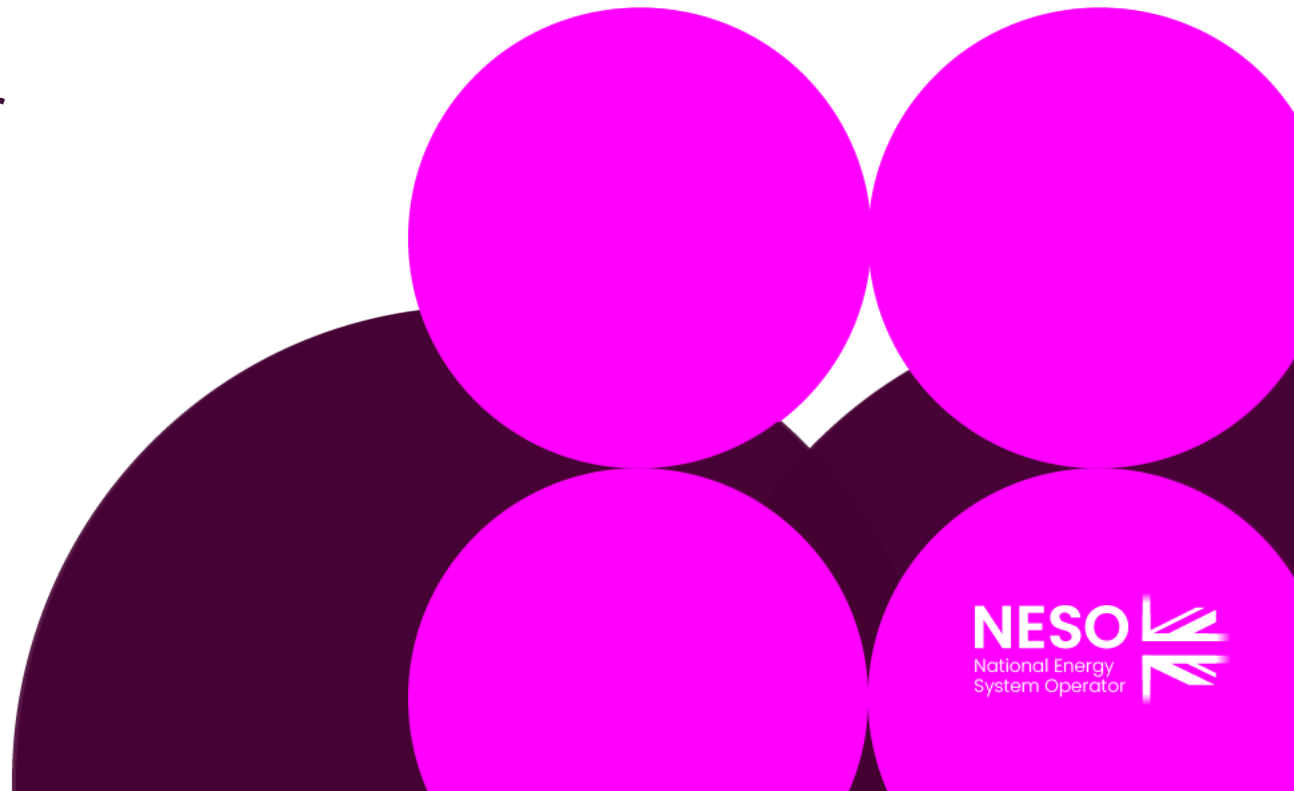
(aa) **The Company** shall publish and regularly review an **Evaluation of Transmission Impact** threshold for each **Grid Supply Point**. An **Embedded Small Power Station** which has a **Registered Capacity** below the **Evaluation of Transmission Impact** threshold for the relevant **Grid Supply Point** is not required to undergo an **Evaluation of Transmission Impact** in accordance with Paragraph 5.1(a) above.

(aa) **The Company** shall publish and regularly review an **Evaluation of Transmission Impact** threshold for each **Grid Supply Point**; if no threshold is published it shall be deemed to be 5MW. An **Embedded Small Power Station** which has a **Registered Capacity** below the **Evaluation of Transmission Impact** threshold for the relevant **Grid Supply Point** is not required to undergo an **Evaluation of Transmission Impact** in accordance with Paragraph 5.1(a) above.



# Workgroup Report and Legal Text Review

Milly Lewis – NESO Code Administrator

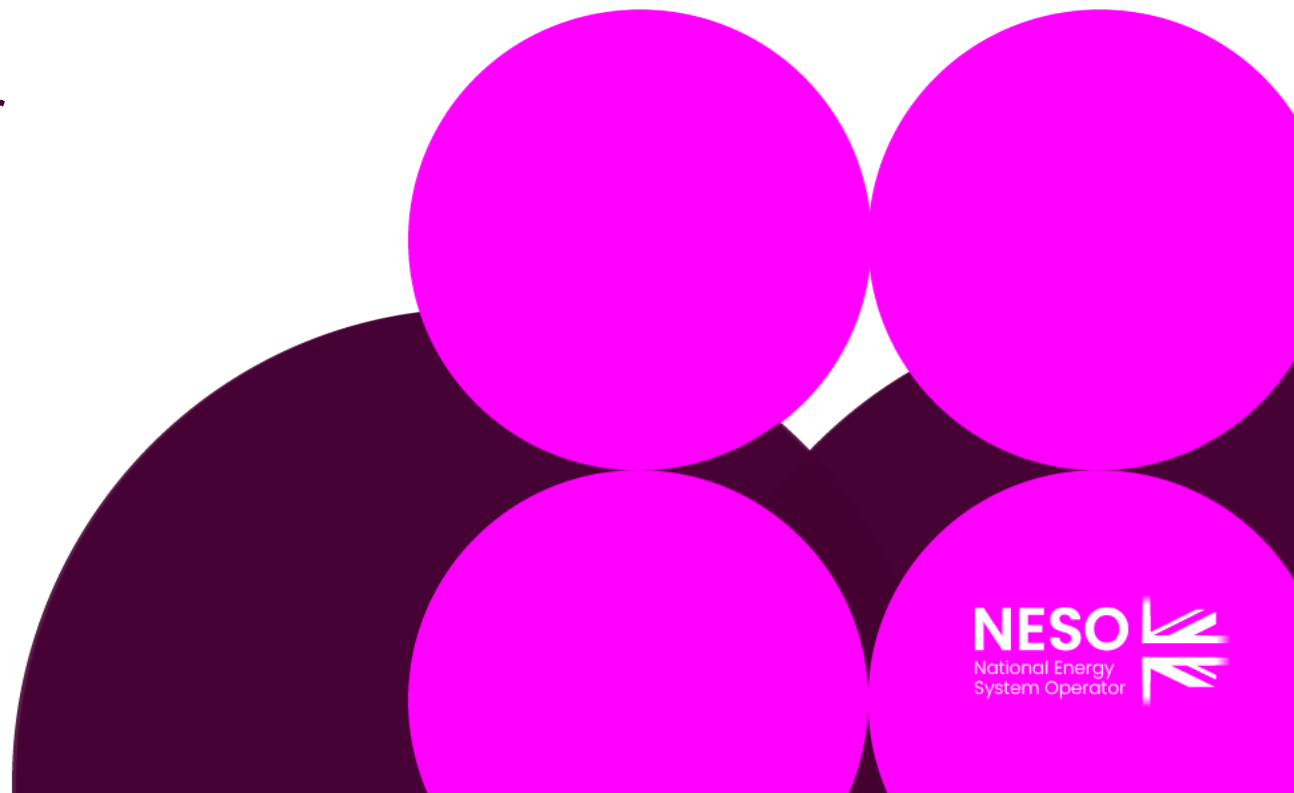


# Terms of Reference Sign off

Workgroup Term of Reference	Location in Workgroup Report
a) Consider EBR implications	Terms of Reference section
b) Consider the scope of work identified and whether this is achievable within the timeframe outlined in the Ofgem Urgency decision letter.	Defect and Scope
c) Consider the legal and practical implementation of this modification alongside CMP434/CMP435 and any other relevant in flight CUSC modifications.	Interaction with CMP434 and CMP435
d) Consider any cross-code impacts.	Cross Code Impact
e) Consider data and any other requirements from DNOs to implement	E&W DNO Application Process
f) Consider how CMP446 would be compatible with the requirement for the NESO acting in a non-discriminatory manner	Defect and Scope
g) Consider how CMP446 would be compatible with the requirement for harmonised rules for generator connections in GB.	Defect and Scope
h) Consider what the MW capacity relates to: for example, export capacity or installed capacity or developer capacity?	MW Capacity Definition
i) Consider if the change applies only to new projects (up to 5MW) or also to existing D connected projects that increase their capacity by up to 5MW (4MW to 6MW), and projects that reduce to be below the threshold.	Change in MW Level and impact on whether a TIA is required
j) Consider potential for interlinked impact of cumulative/aggregated <5MW projects which would otherwise breach the proposed 5MW threshold.	Potential Risks and impacts of changing the threshold
k) Consider the interaction with Technical (Planning) limits and Distribution (DNO) managed Active Network Management (ANM) schemes	Interaction with Active Network Management

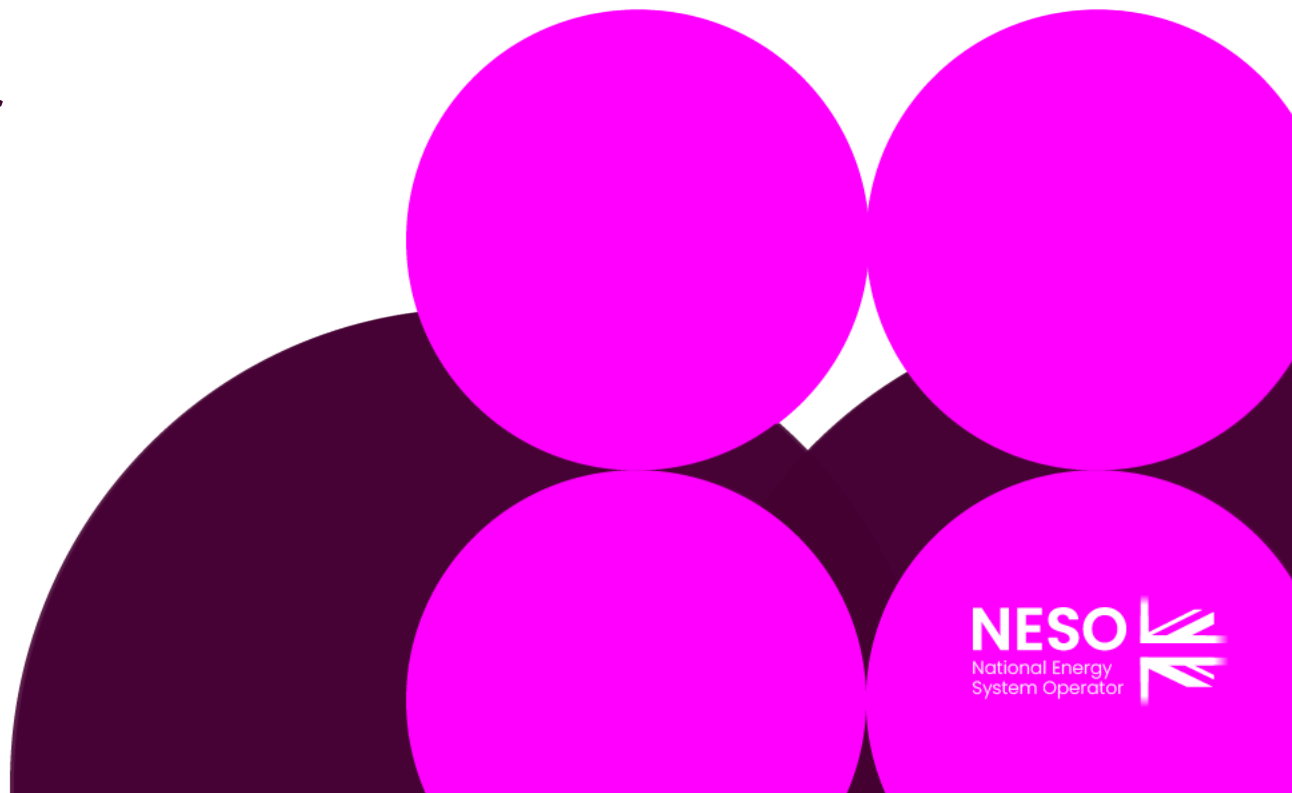
# Any Other Business

Milly Lewis – NESO Code Administrator



# Workgroup Vote

Milly Lewis – NESO Code Administrator



# 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

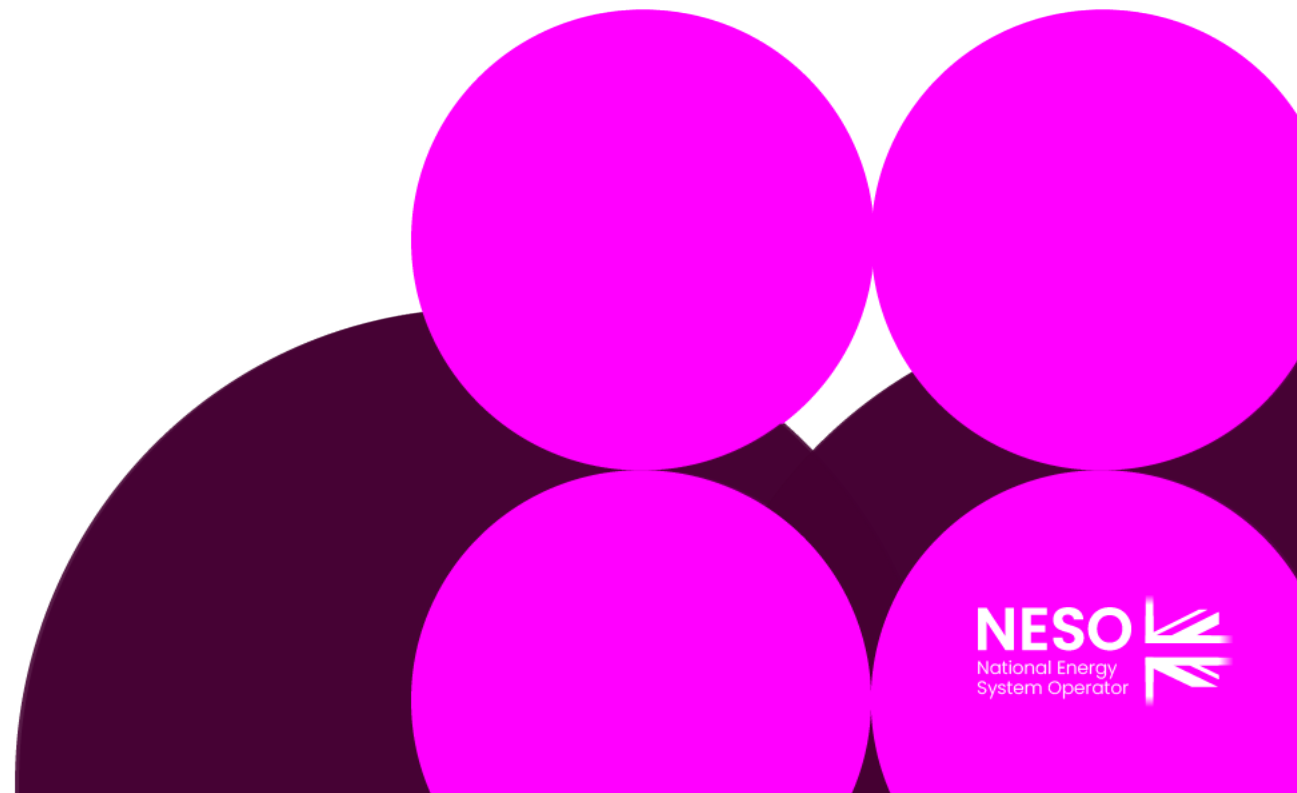


# Workgroup Membership

Role	Name	Company	Eligibility to Vote
Proposer	Martin Cahill	NESO	Eligible
Workgroup Member	Brian Hoy	Electricity North West	Eligible
Workgroup Member	Ciaran Fitzgerald	Scottish Power Renewables	Eligible
Workgroup Member	Dan Clarke	National Grid Electricity Transmission (nominated by NESO)	Eligible
Workgroup Member	Drew Johnstone	Northern Powergrid	Eligible
Workgroup Member	Garth Graham	SSE Generation	Eligible
Workgroup Member	Grant Rogers	Qualitas Energy	Eligible
Workgroup Member	Helen Stack	Centrica	Eligible
Workgroup Member	Jack Purchase	National Grid Electricity Distribution	Eligible
Workgroup Member	Joe Colebrook	Innova Renewables	Eligible
Workgroup Member	Kate Teubner	Low Carbon	Eligible
Workgroup Member	Kyran Hanks	WWA (nominated as a CUSC Panel Member)	Eligible
Workgroup Member	Nina Sharma	Drax	Eligible
Workgroup Member	Ross O'Hare	SSEN	Eligible
Workgroup Member	Zivanayi Musanhi	UK Power Networks	Eligible
Authority Representative	Alasdair MacMillan	Ofgem	N/A

# Next Steps

Milly Lewis – NESO Code Administrator



# Timeline for CMP446

Workgroups		High Level Objectives
CMP446 Workgroup Meeting 1	24/01/2025	Full solution and ToR assessment
CMP446 Workgroup Meeting 2	30/01/2025	Any Alternative requests suggestion/ Review of Workgroup Consultation
CMP446 Workgroup Meeting 3	03/02/2025	
CMP446 Workgroup Meeting 4	05/02/2025	Review of Workgroup Consultation / Contingency
CMP446 Workgroup Meeting 5	06/02/2025	Workgroup Consultation Review
CMP446 Workgroup Consultation	07/02/2025 - 13/02/2025	Workgroup Consultation Review
CMP446 Workgroup Meeting 6	19/02/2025/ and 20/02/2025	Workgroup Consultation feedback and any Alternative votes
CMP446 Workgroup Meeting 7		
CMP446 Workgroup Meeting 8	24/02/2025	WACM clarification and legal text discussion
CMP446 Workgroup Meeting 9	26/02/2025	ToR confirmation and Workgroup Vote
CMP446 Contingency Meeting	27/02/2025	Contingency for Workgroup Report review
CMP446 Workgroup Report to Panel	05/03/2025	
CMP446 Panel for ToR sign off	10/03/2025	
Post Workgroups		
CMP446 Code Administrator Consultation	10/03/2025 - 17/03/2025	
CMP446 Draft Final Modification Report to Panel	24/03/2025	
CMP446 Panel Recommendation Vote	28/03/2025	
CMP446 Final Modification Report to Panel to check Votes	28/03/2025	
CMP446 Final Modification to Ofgem	28/03/2025	
CMP446 Decision Date	29/04/2025	
CMP446 Implementation Date	02/05/2025	