

CM097: Electromagnetic Transient (EMT) and Root Mean Square (RMS) Model Submission for Transmission Owners (TOs)

Workgroup 4, 15 May 2025

Online Meeting via Teams

WELCOME

Agenda

Topics to be discussed	Lead
Welcome	Chair
Actions Review	All
Workgroup Consultation Responses	All
Terms of Reference and Timeline	Chair
AOB and Next Steps	Chair

Expectations of a Workgroup Member

Contribute to the discussion

Be respectful of each others' 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

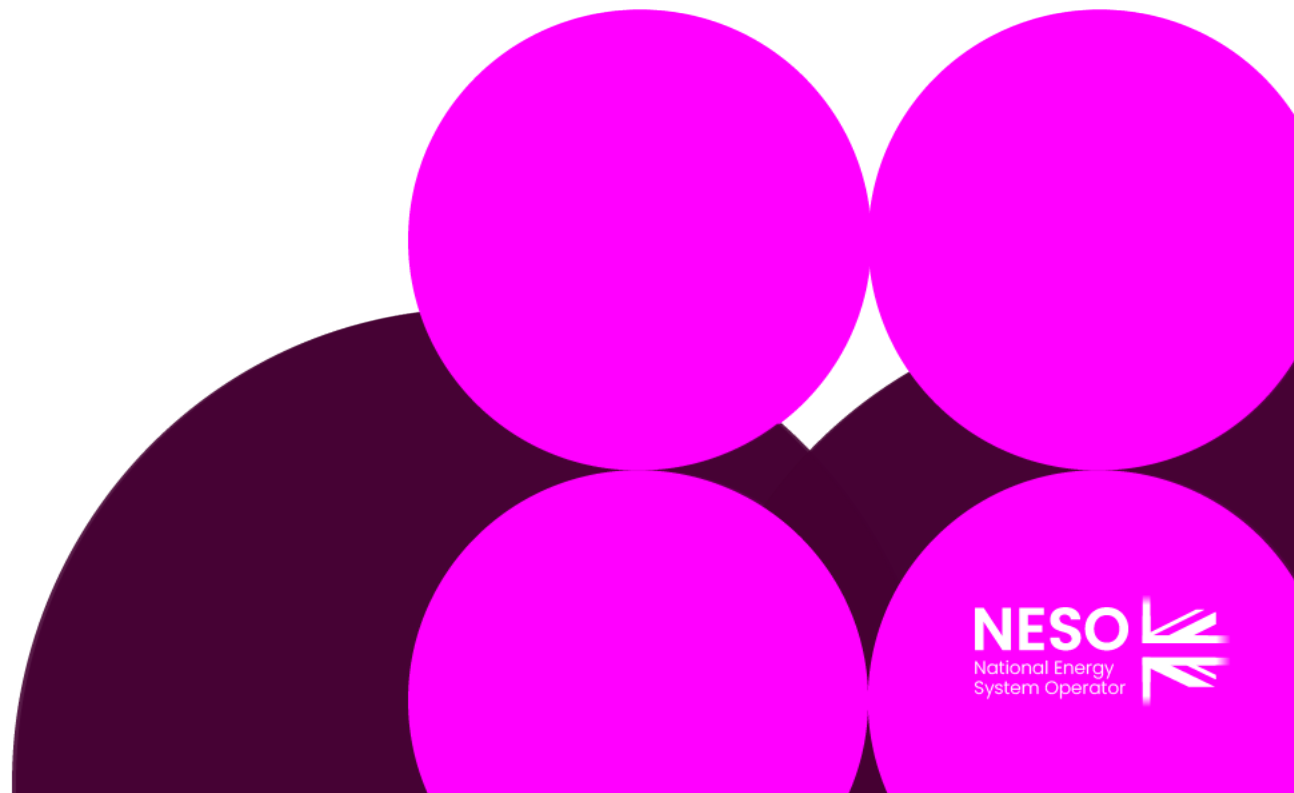
Workgroup Membership

Role	Name	Company
Proposer	Frank Kasibante	NESO
Workgroup Member	Joel Matthews	Diamond Transmission Corp
Workgroup Member	Calum Erentz	NESO
Workgroup Member	Darshak Shah	BP
Workgroup Member	Dewu Shu	GE Vernova
Workgroup Member	Bala Santhanam	Enercon GmbH
Workgroup Member	Graeme Vincent	SP Energy Networks
Workgroup Member	Srinivas Edla	SSEN
Observer	Maria Ebue	Volitalia UK Ltd
Observer	Wuxing Liang	The Crown Estate
Observer	Antony Johnson	NESO
Observer	Ramana Budha	Jacobs UK Ltd
Observer	Ife Garba	NESO
Authority Representative	Asalan Zaidi	Ofgem

Actions Review

Matthew Larreta

NESO Code Administrator



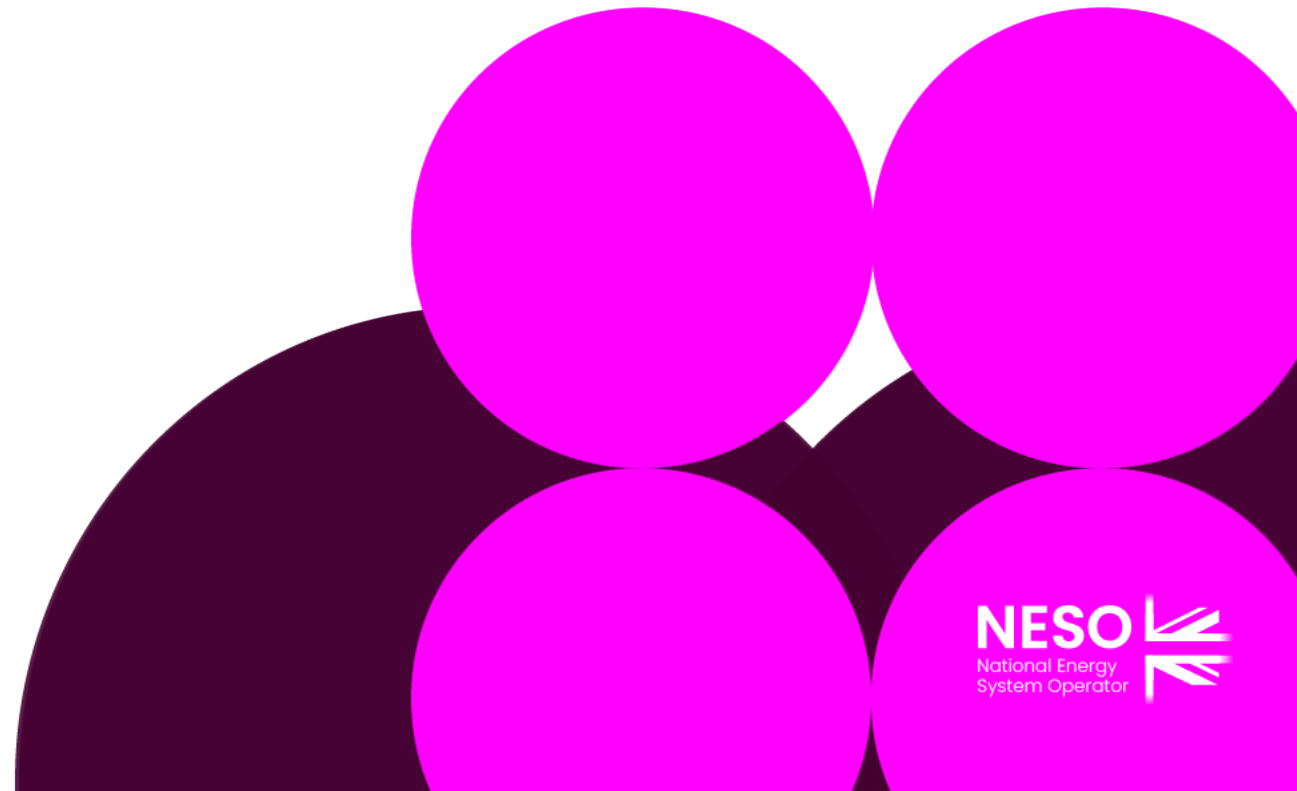
Actions Log

Action Number	Owner	Action	Update	Status
11	FK/AJ	Discussion offline with Ofgem and the NESO Legal team regarding cost recovery mechanisms for offshore transmission owners.	<p>Advice from NESO Legal team was as follows:</p> <ul style="list-style-type: none"> • Licence changes are Ofgem led. • OFTOs could write Ofgem a letter asking if a licence change is needed as request for assistance to progress the drafting. • Process (from a CM097 perspective) should be OFTO led. • The CM097 Workgroup report should include this as an issue for Ofgem's consideration. 	Propose to Close
15	FK	A Workgroup member raised a concern about the definition of EMT models in the legal text, suggesting it might be too detailed and not aligned with existing guidance documents. The Proposer took a new action take the discussion offline and come up with a more accurate definition.	RMS and EMT have not yet been defined in the Grid Code as well. Propose to use as defined within the draft STCP12-2.	Propose to Close
16	FK	It was noted that references within the legal text need to be updated to reflect the correct terminology. This would involve replacing instances of "guidance notes" with "electrical standards" where applicable. The Proposer took an action to update these references.	These have been updated in the draft STCP 12-2 to reflect the feedback.	Propose to Close

Workgroup Consultation Responses

Matthew Larreta

NESO Code Administrator



Standard Workgroup Consultation questions



3 non-confidential responses



1 confidential response



Two respondents were supportive of the proposed implementation approach. One respondent noted that that detailed requirements will be included in the proposed STCP 12-2, making a full assessment difficult. They also highlight significant costs and timescales for obtaining EMT models for existing plants and support a cost recovery mechanism.

One respondent did not support the proposed implementation approach. They noted the burden on TOs in terms of resourcing and the specific need for the data, with significant internal and external costs for OFTOs.

Objectives which the Proposer's solution better facilitates the Applicable Objectives than the baseline:



One respondent chose **objective (a)**
One respondent chose **objective (b)**
Two respondents chose **objective (c)**
Three respondents chose **objective (e)**
Two respondents chose **objective (g)**
One respondent chose **objective (h)**



One respondent indicated that they wished to raise an Alternative Request for the Workgroup to consider, however they have yet to submit the request.



All respondents confirmed that the draft Legal Text satisfied the intent of the modification, with one respondent noting that the majority of the detail will be contained in the proposed STCP 12-2.

Specific Workgroup Consultation questions



Q6 - Please could you share your rationale for a cost-recovery mechanism to be put in place supported by evidence, where available. If no cost-recovery mechanism were available, what do you believe the implications would be?

- There **should be a cost recovery mechanism for TOs to provide EMT models for already connected equipment.** Established TOs could use price control for this purpose, but it is **unclear how it would work for OFTOs.** Noted that a cost recovery mechanism is **not necessary for new plants or CATOs.**
- There is a **need for a cost-recovery mechanism for obtaining EMT models for existing plant.** SP Energy Networks (SPEN) already requires RMS and EMT models for new plant, but the **costs for obtaining EMT models for existing plant are very high.** Without a cost-recovery mechanism, the process of acquiring validated EMT models for GB plant would be slowed down.
- The cumulative effect of many small changes is impacting the belief that the TO regime is low-risk. **Implementing this modification without additional funding will result in a longer and less technically competent process.** There should be a cost-benefit analysis for providing the data, as assuming no cost will not lead to the best decision for the industry.

Specific Workgroup Consultation questions



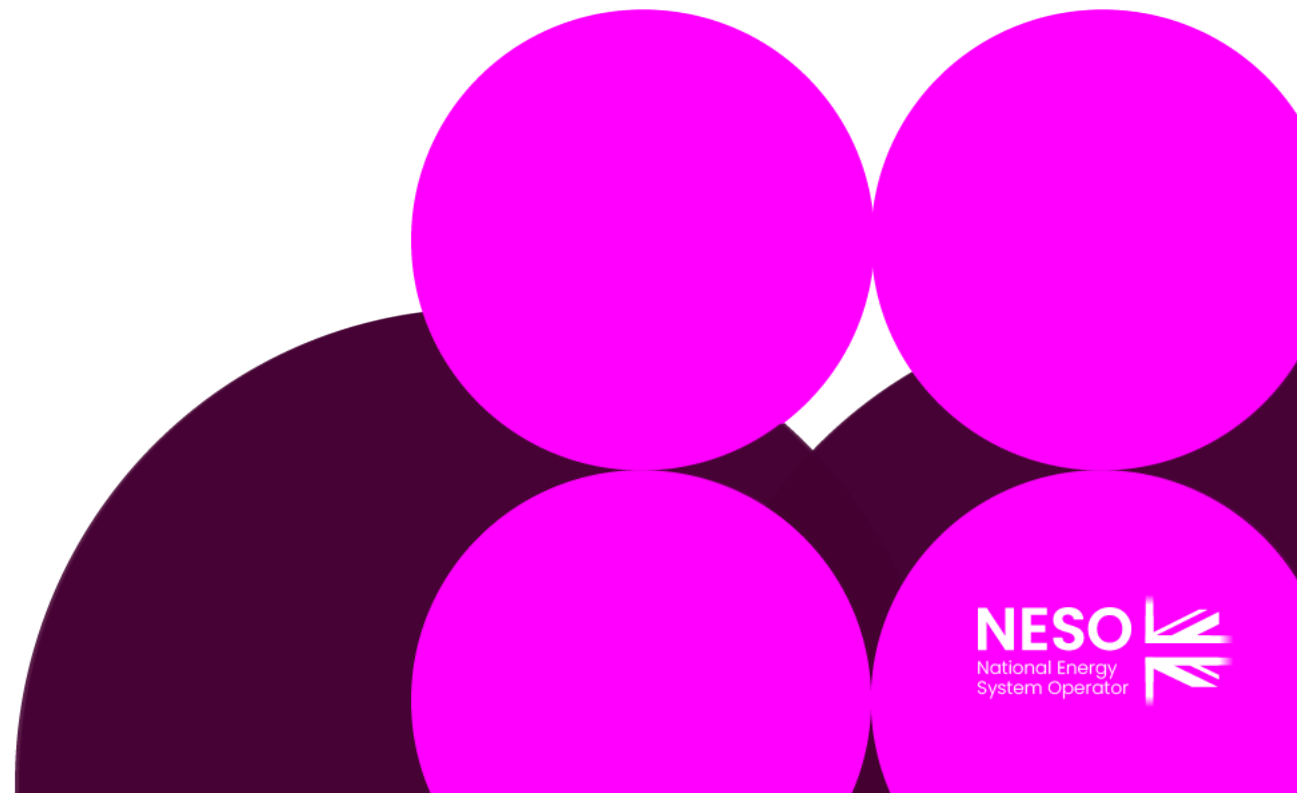
Q7 - As part of the consequential modification for GC0168, it is proposed to prepare an Electrical Standard detailing how an EMT model would be submitted in PSCAD Version 5. Do you believe with appropriate signposting to the Grid Code from the STC, this would be an appropriate and cost-effective method of providing this guidance to transmission licences. If you do not believe this to be the case, what alternative would you suggest and add the rationale for your view.

- **Agreed with the proposed approach**, for PSCAD Version 5 or higher.
- **Favours an approach based on open standards and interoperability** between simulation platforms, **rather than binding the industry to a single vendor and simulation platform**. Referenced existing standards such as Functional Mock-up Interface (FMI) and the approach developed by IEEE and Cigre.
- Confirmed that this **proposal is in line with a number of read across situations from STC to Grid Code**. Noted that governance of the Grid Code is independent to the STC and there have been issues in the past with the GC Panel making changes to GC documents which impact on the STC, without input from the STC community.

ToR and Timeline

Matthew Larreta

NESO Code Administrator



Terms of Reference

Workgroup Terms of Reference

- a) Implementation;
- b) Review and support the legal text drafting;
- c) Ensure the appropriate Industry experts or stakeholders are engaged in the Workgroup to ensure that all potentially affected stakeholders have the opportunity to be represented in the Workgroup;
- d) The Cross Code impacts this Modification has, in particular the Grid Code and the CUSC;
- e) Consider STCP 12-2 alongside CM097;
- f) Consider how to produce/gather models for existing assets;
- g) Assess the materiality of costs/resources needed for STC Parties to comply with additional requirements brought forward by the proposer's solution.

Timeline for CM097 as of 15 May 2025

Milestone	Date	Milestone	Date
Modification presented to Panel	29 May 2024	Code Administrator Consultation (15 business days)	01 September 2025 to 22 September 2025
Workgroup Nominations (15 business Days) Second Workgroup Nominations	03 – 24 June 2024 14 October to 6 November 2024	Draft Final Modification Report (DFMR) issued to Panel (5 business days)	22 October 2025
Workgroup 1 <i>Review Proposer’s solution, timeline and Terms of Reference</i>	16 December 2024	Panel undertake DFMR recommendation vote	29 October 2025
Workgroup 2 <i>Review legal text and any actions from previous Workgroup</i>	21 January 2025		
Workgroup 3 <i>Confirm legal text complete. Review Draft Workgroup Consultation discuss specific questions and issue to industry</i>	18 March 2025		
Workgroup Consultation (15 business days)	28 March - 25 April 2025	Final Modification Report issued to Panel to check votes recorded	30 October 2025 to 05 November 2025
Workgroup 4 <i>Review Workgroup Consultation responses</i>	15 May 2025	Final Modification Report issued to Ofgem	07 November 2025
Workgroup 5 TBC	05 June 2025		
Workgroup 6 TBC	26 June 2025		
Workgroup 7 TBC	17 July 2025		
Workgroup 8 (contingency) TBC	TBC		
Workgroup report issued to Panel (5 business days)	20 August 2025	Ofgem decision	TBC
Panel sign off that Workgroup Report has met its Terms of Reference	27 August 2025	Implementation Date	TBC

AOB and Next Steps

Matthew Larreta

NESO Code Administrator

