Public

GC0182: Metering Polarity

Workgroup 4, 20 January 2025

Online Meeting via Teams

NESO
National Energy System Operator

WELCOME

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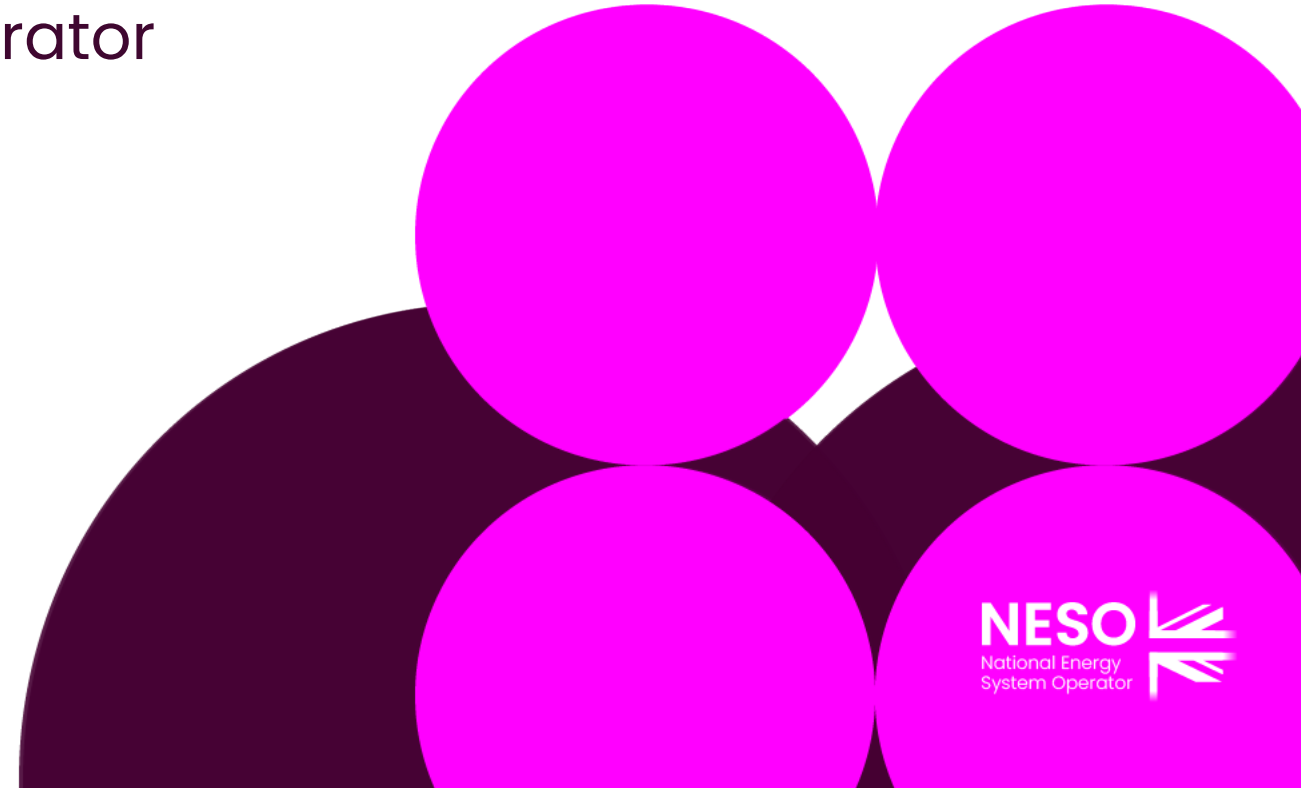
Agenda

Topics to be discussed	Lead
Introductions	Chair
Objectives and Timeline	Chair
Actions Log Review	Chair
Refined Implementation Plan	NESO Representative
Workgroup Consultation Document Review	
Any Other Business • Timeline Review	Chair
Next Steps	Chair

Workgroup Responsibilities and Membership

Prisca Evans – 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

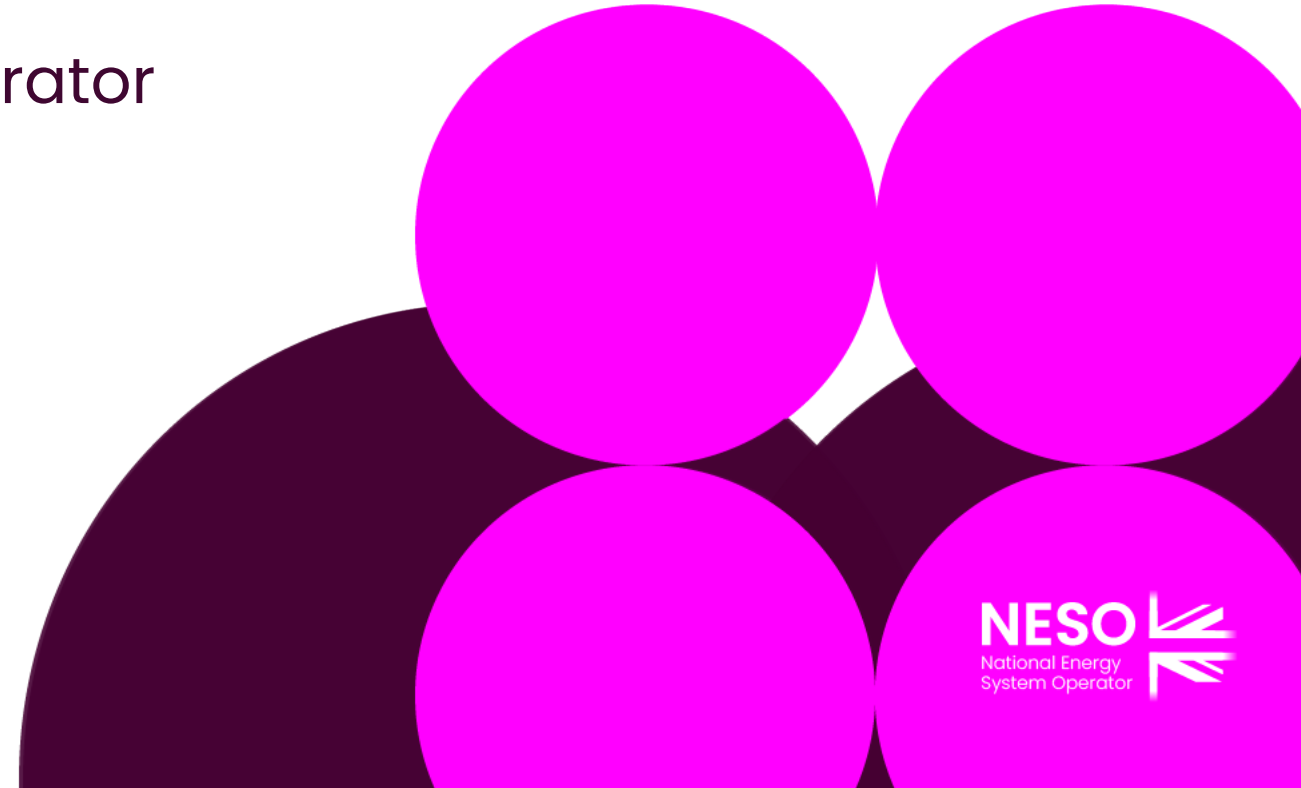
- Help refine/develop the solution(s)
- Bring forward alternatives as early as possible
- Vote on whether or not to proceed with requests for Alternatives
- Vote on whether the solution(s) better facilitate the Code Objectives

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	Alan Convery	SP Transmission
Workgroup Member	Paul Youngman	Drax
Workgroup Member	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	Pritesh Patel	NESO
Authority Representative	Paul Drew	OFGEM

Objectives and Timeline

Prisca Evans – NESO Code Administrator



Timeline for GC0182 as of 15 September 2025

Milestone	Date	Milestone	Date
Modification presented to Panel	24/07/25	Code Administrator Consultation	06/10/26 - 06/11/26
Workgroup Nominations (15 business days)	29/07/25 - 18/08/25	Draft Final Modification Report (DFMR) issued to Panel (5 business days)	18/11/26
Workgroups 1, 2, 3, 4 and 5	• 15/09/25 • 20/10/25 • 25/11/25 • 20/01/26 • 09/02/26	Panel undertake DFMR recommendation vote	26/11/26
Workgroup Consultation (21 business days)	02/03/26 - 20/03/26	Final Modification Report issued to Panel to check votes recorded correctly	01/12/26 - 08/12/26
Workgroups 6,7,8,9 and 10	• 07/04/26 • 14/05/26 • 01/06/26 • 13/07/26 • 04/09/26	Final Modification Report issued to Ofgem	09/12/26
Workgroup report issued to Panel	24/09/26	Ofgem decision needed by	TBC
Panel sign off that Workgroup Report has met its Terms of Reference	24/09/26	Implementation Date	TBC

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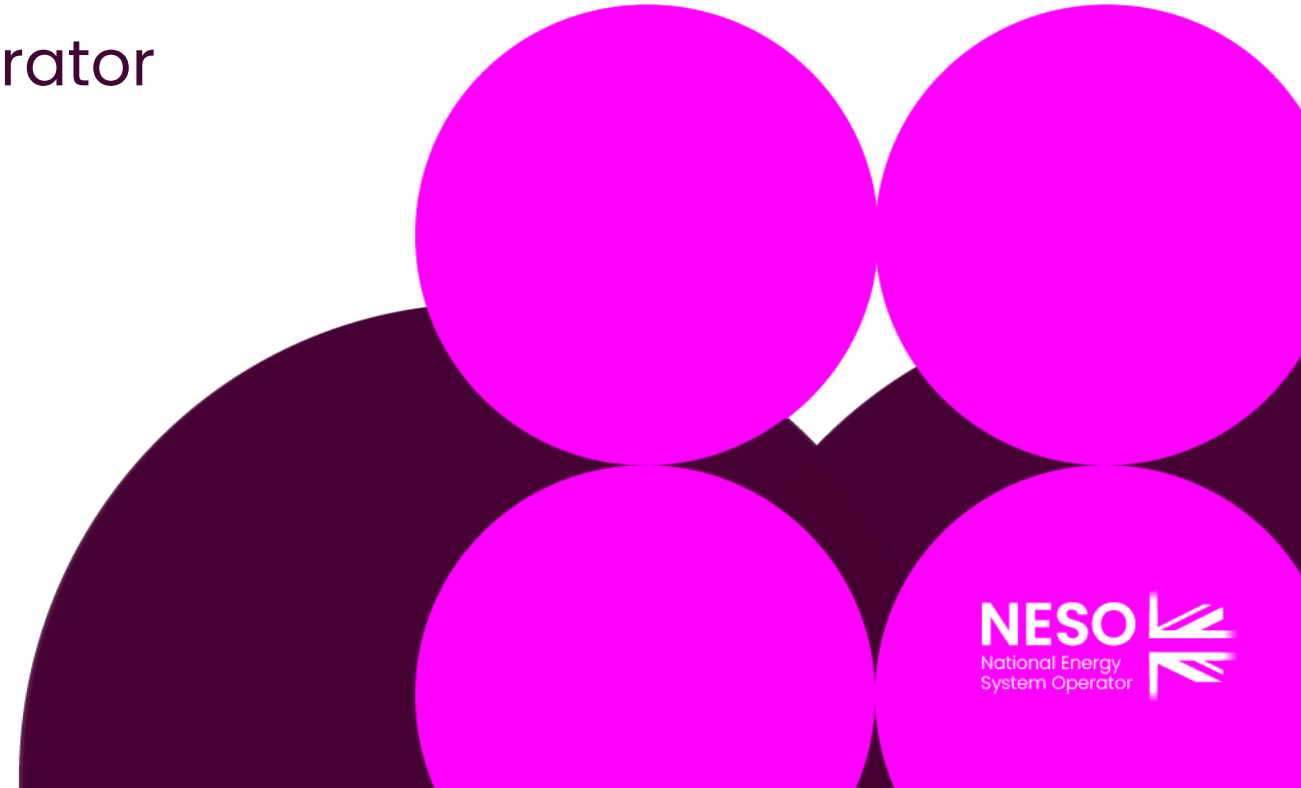
Action Log Review

Prisca Evans – NESO Code Administrator



Action Log Review

Action	Owner	Status Update
4) Propose a clear and consistent implementation date for the new requirements, ensuring alignment across all relevant documents.	TG/PP	Need to ensure that any documentation confirms that there is no confirmed 'start date' and there will not be as Ofgem will be determining this. Also discuss with Contracts team in terms of proposed changes.
10) Obtain and provide feedback on the need for a guidance note on the installation of operational metering for non-participants.	PP	AG units, VLP units. To make sure these units have the same Appendix amended. PP to reach out to Lucy Hudson. Are we going to include non BMU metering on the guidance note?
11) Review the GC0103 Legal text and determine if it can be built on for GC0182 and identify any Legal text changes needed to GC0182 to ensure alignment with GC0103.	TG	Initial NESO internal review suggests this is a feasible option, please see further details in the refined implementation plan in the following section.
12) Check Legal text to confirm that obligations for Licence Exemptible Embedded Medium Power Station (LEEMPS) are correctly passed via the Distribution Code and update references if needed notification sequence (EON, ION, LON).	TG	I do not think we need to make any changes to the GC0182 drafting for LEEMPS as a LEEMPS station is bound by CC/ECC.6.4.4 and CC/ECC.6.5.6 as we have updated CC/ECC.6.5.6 it should work

Action Log Review

Action	Owner	Status
13) Clarify whether changes to Appendix F5 templates (or other BCA appendices) sit outside of the CUSC governance process before embedding new standards.	TG	Any changes to BCA template does not affect CUSC governance
14) Clarify whether the new metering polarity standard will apply to all connection offers reissued as part of the connections reform process, or only to new offers.	PP	This will depend on if we change the BCA template. If we apply some text to refer to the guidance note then it wont be enforced.
15) Upload the draft the new Electrical Standard to the collaboration space and add it as an annex in the Workgroup Consultation document.	HG/PE	Uploaded.
16) Update the Workgroup Consultation document to clearly list all affected parties, referencing GB code users, EU code users, LEEMPS, and Embedded Generators as appropriate.	HG/PP	Now updated. This includes GB users, EU code users of the grid code and TOs and OFTOs as listed in the SO-TO code schedule A
17) Clarify in the Workgroup Consultation document the practical application of the standard for new and existing connections, including completion date and upgrade scenarios.	HG/RC	Wording updated. - New connections with completion date after the implementation date of GC0182 shall conform to the meter polarity standard. - Existing connections whose meters are installed or upgraded after the implementation date of

Action Log Review

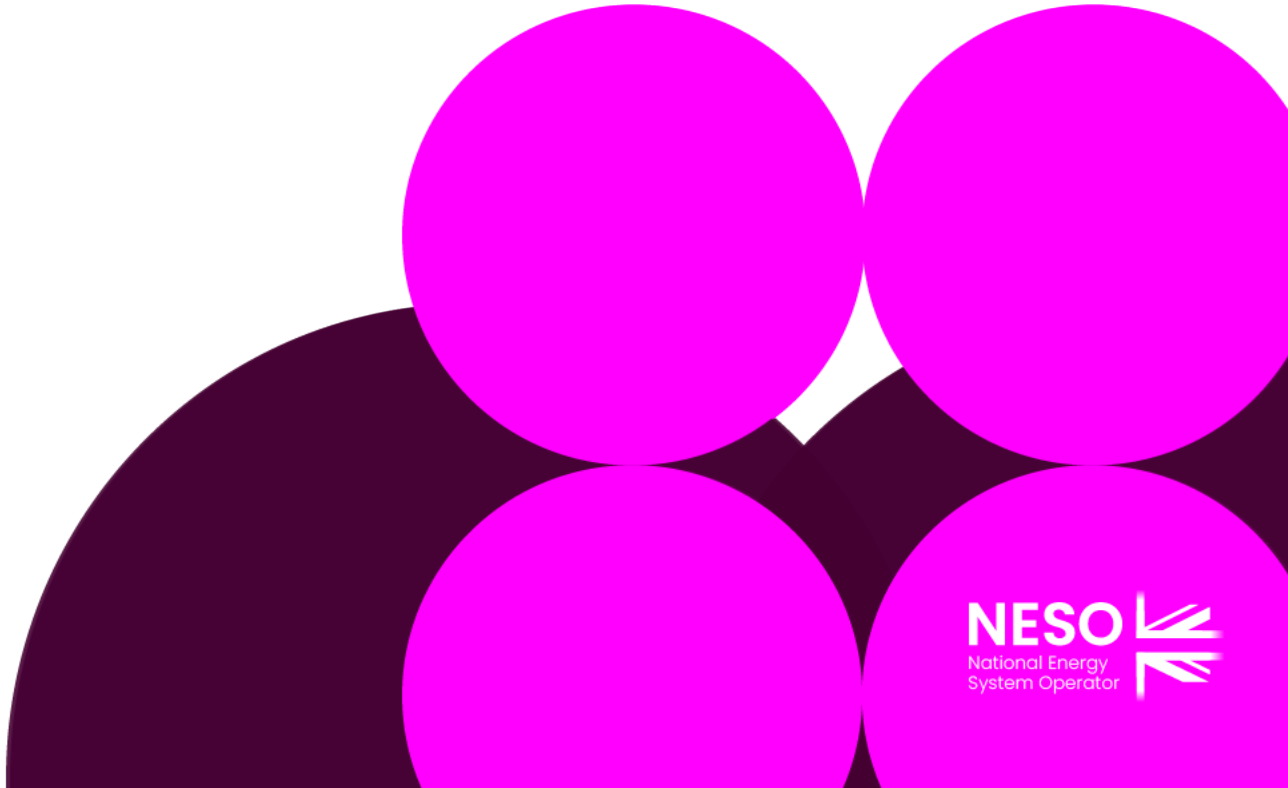
Action	Owner	Status
18) Reword the "What is the issue" and "Why change" sections in the Workgroup Consultation document to accurately reflect the operational challenges and avoid overstating the issue.	TG	Wording in both sections amended. 02/12/25
19) Clarify the impact of the Modification on Interconnectors in the Workgroup Consultation document, specifying whether and how they benefit or are affected.	PP/HG	There is no impact to interconnectors as the data is not shared with them.
20) Reference and clarify in the Workgroup consultation document how forecasting inaccuracies are a defect being addressed by the Modification.	PP	National Demand is based on the IEMS operational metering. If the ops metering has the wrong polarity this directly impacts the National Demand calculation. Which then impacts our forecasting models. Therefore, if we can stop incorrect polarity in the first place, we will improve our demand forecasting inaccuracies going forward.

Action Log Review

Action	Owner	Status
21) Elaborate in the Workgroup Consultation document why engagement with Network Operators was or was not required, given reliance on their data.	RC	Consultation doc updated to more accurately reflect how the additional engagement sessions were organised. The Proposal was presented twice at the GCDF with stakeholders supportive, however, some were seeking additional clarification and wanted to provide feedback. Therefore, individual sessions were set up with these stakeholders to allow for more in-depth discussions to take place and address all feedback.
22) Add examples in the Workgroup Consultation document of operational metering data flows from network operators to NESO, especially where Network Operators are involved.	PP/HG	Bolney 132kv

Refined Implementation Plan for GC0182

NESO



Refined Implementation Plan for GC0182

Step 1: To publish a Guidance Note on Meter Polarity on NESO Website

(1.1) Diagram + Explanatory Text in the Guidance Note to help industry stakeholders when setting up their operational metering

- Sites being covered
  - Offshore Generator S/S
  - OFTO Offshore and Onshore S/S
  - TO S/S
  - Network Operator S/S

Guidance Note - Metering Polarity Standard for Power Flow Data - 05 Dec 2025.docx

- Apparatus being covered
  - Connections between GB substations: OHL, cable, LV feeder, transformer
  - Shunt Connected Reactive apparatus: Shunt Capacitor, Shunt Reactor, Harmonic Filter, SVC, DRC
  - Series Connected Reactive apparatus: Series Reactor, Series Capacitor, Quad Booster
  - Generator Connection including all assets from the Generator up to the connection point: Wind Turbine, Embedded Generator, Sync Comp, Energy Storage, aux transformer
  - Interconnectors

- Sign (+/-) and Arrow to indicate flow direction of each Apparatus

(1.2) The principles outlined in this guidance are not mandatory, however, it indicates the best practice approach and will be beneficial for all to ensure correct and efficient operation of the network.

The purpose of publishing the Guidance Note is to notify as many industry stakeholders as possible, as early as possible, that there will be a unified meter polarity standard that needs to be followed and it is undergoing a Grid Code and STC modification process.

Refined Implementation Plan for GC0182

Step 2: To put the link to the Guidance Note into new Connection Agreements

(2.1) To add link to the Guidance Note into the appendix of new Connection Agreements

(2.2) To add statement: "Grid Code Workgroup GC0182 is currently underway to create a metering polarity standard. In the meantime, here is a link to a guidance note on metering polarity. Following this guidance will ensure the EU Code User's metering is correctly connected and will avoid the need for action once the code change is implemented."

The purpose of adding the link to the Guidance Note into Connection Agreements is to notify as many industry stakeholders as possible, as early as possible, that there will be a unified meter polarity standard that needs to be followed and it is undergoing a Grid Code modification process.

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Refined Implementation Plan for GC0182

Step 3: Grid Code Mod GC0182

(3.1) To publish Metering Polarity Standard for Power Flow Data as a new Electrical Standard and add reference to Part II (b) of Annex to the General Condition of Grid Code. Note that Part II will only exist once GC0103 is implemented and it is assumed it will be implemented before GC0182 and CM0105.

[Metering Polarity Standard for Power Flow Data - 05 Dec 2025.docx]

[Electrical Standard Website]

England and Wales electrical standards

RES guidance document

Specifications for electronic data communications facilities

Electrical standards for SPTs transmission system

Electrical standards for the SHE transmission system

Specifications for electronic data communications facilities

Name	Published
EDL Instruction Interface Valid Reason Codes - 5 November 2025	5 Nov 2025
EDL Message Interface Specification Issue 7	8 Apr 2025
Electronic data transfer (EDT) Interface Specification Issue 5	8 Apr 2025
Distribution Restoration Zone Control System (DRZCS) Standard	4 Jun 2024
MODIS Interface Specification (Version 4)	14 Mar 2016
Data Validation, Consistency and Defaulting Rules Issue 9	3 Dec 2014
EDT Submitter Guidance Notes	3 Apr 2014

Metering Polarity Standard for Power Flow Data

(b) Electronic data communications facilities and other requirements applicable in all **Transmission Areas**.

Communications Standards for Electronic Data Communication Facilities and Automatic Logging Devices	Version 9	8th April 2025
EDT Interface Specification	Issue 5	8th April 2025
EDT Submitter Guidance Note	Issue 1	21st Dec 2001
EDL Message Interface Specification	Issue 7	8th April 2025
EDL Instruction Interface Valid Reason Codes	Issue 9	7th Nov 2024
MODIS Interface Specification	Version 4	26th May 2015
Control Telephony Electrical Standard	Issue 4	8th April 2025
Distribution Restoration Zone Control System High Level Functional Requirements	1.0	4th June 2024
Metering Polarity Standard for Power Flow Data	Issue 1	1st January 2027

Refined Implementation Plan for GC0182

Step 3: Grid Code Mod GC0182

(3.2) To add New CC6.5.6(f) and ECC6.5.6.4(f) clauses to Grid Code

- CC6.5.6 (f) ★ Where a **GB Code User** installs or upgrades its operational metering on or after **DD/MM/YYYY** [this being the GC0182 implementation date], the **GB Code User** shall ensure the operational metering conforms to the Metering Polarity Standard for Power Flow Data as provided in the **Applicable Electrical Standards**. The **GB Code User** shall provide the list of metering points being installed or upgraded to **The Company** and these metering points will be checked and validated by **The Company** and agreed with the **GB Code User**.

- ECC6.5.6.4 (f) ★ Where an **EU Code User** installs or upgrades its operational metering on or after **DD/MM/YYYY** [this being the GC0182 implementation date], the **EU Code User** shall ensure the operational metering conforms to the Metering Polarity Standard for Power Flow Data as provided in the **Applicable Electrical Standards**. The **EU Code User** shall provide the list of metering points being installed or upgraded to **The Company** and these metering points will be checked and validated by **The Company** and agreed with the **EU Code User.**

Refined Implementation Plan for GC0182

Step 4: To update linkage among Guidance Note, Connection Agreement, Electrical Standard and Grid Code

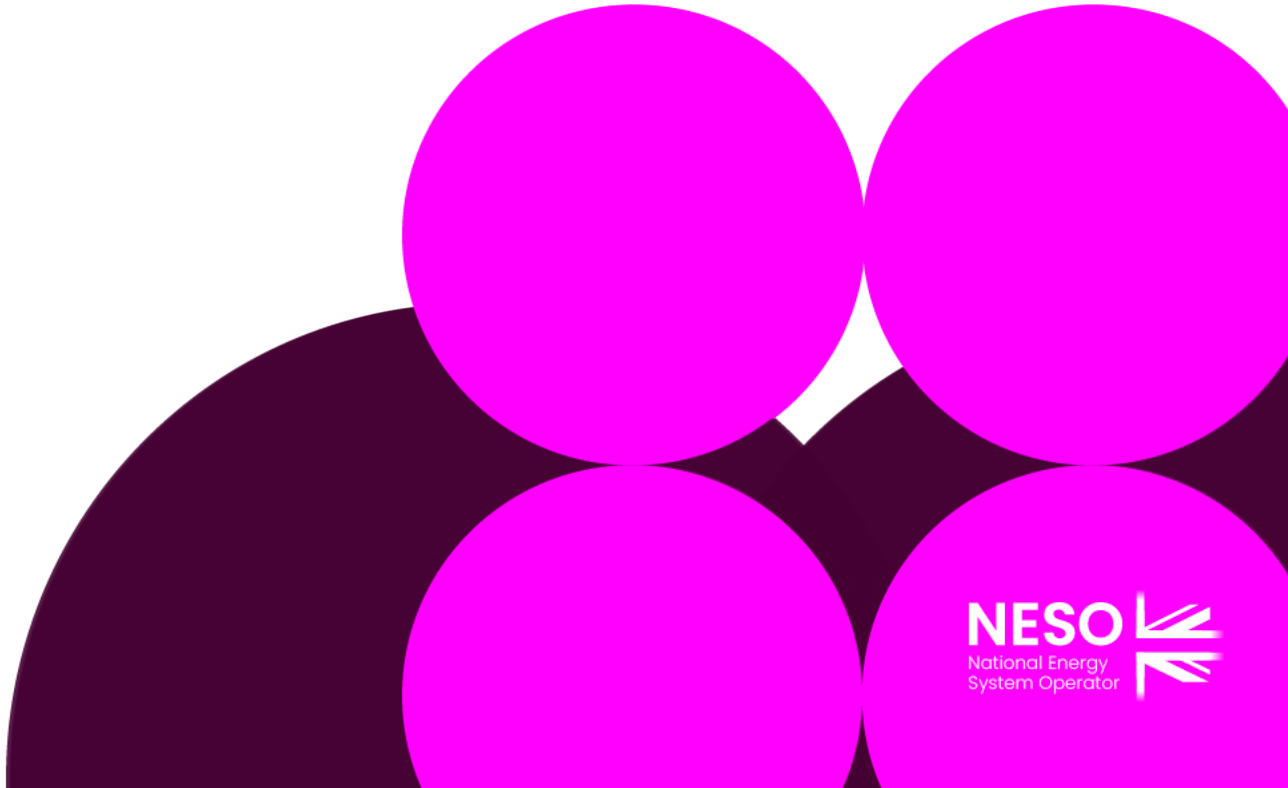
(4.1) Remove Guidance Note from NESO Website

(4.2) Update Connection Agreement

- Add link to Electrical Standard (see Step 3.1) and remove link to Guidance Note
- Add requirement to conform to Electrical Standard by referencing to CC.6.5.6(f) and ECC.6.5.6.4(f)

Workgroup Consultation Document Review

All



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Questions?

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Any Other Business

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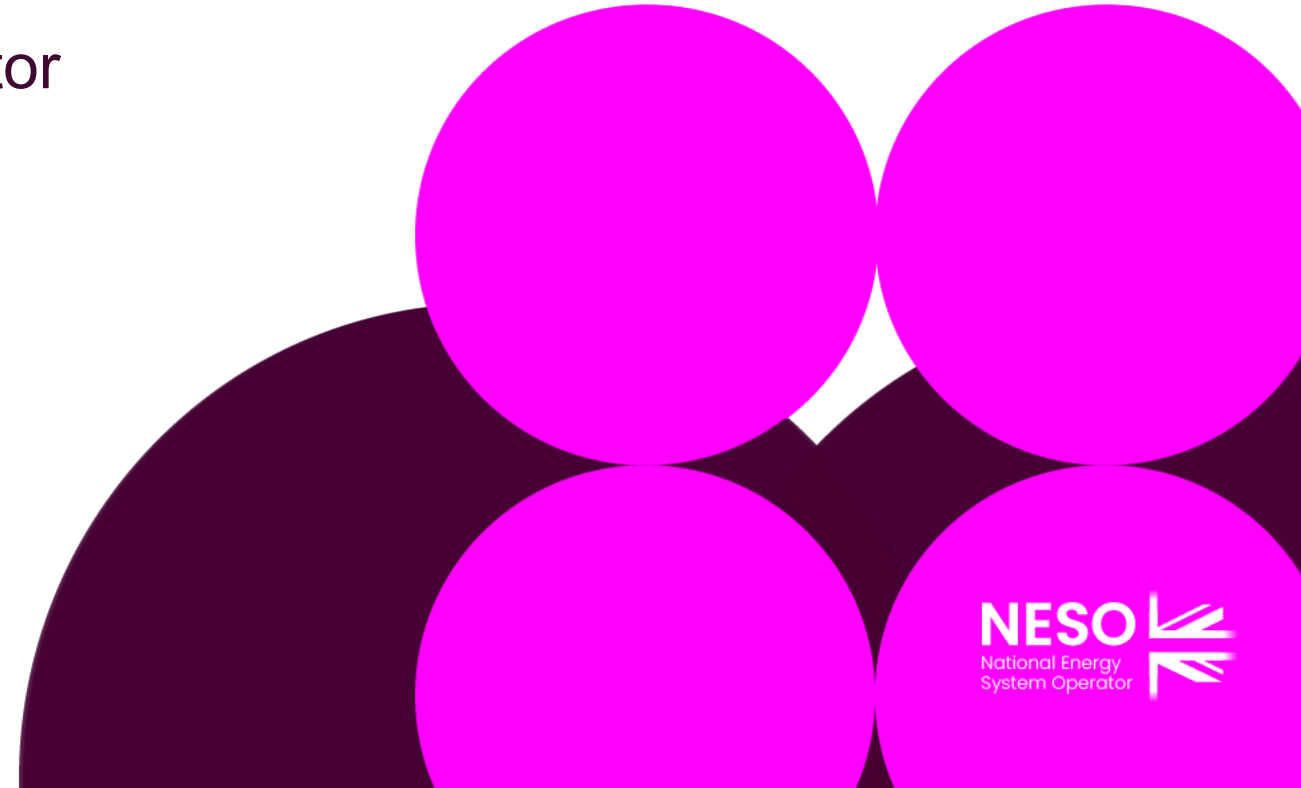

Next Steps

Prisca Evans – NESO Code Administrator