SQSS Panel

Wednesday 9 November 2022

Microsoft Teams

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Introductions & Apologies for absence

- Apologies
- Alternates
- Observers/Presenters

Approval of Panel Minutes

Approval of Panel Minutes from the Meeting held on:

13 July 2022

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Actions Log

Review of the actions log

Authority Update

- **Energy Code Reform/Future System Operator**

- **Decisions**
  - GSR028 decision received on 26 August 2022

Standing Items / impacts from other work

- Review of Modification Tracker
  Link

New modifications submitted

Standard Governance

SQSS Infeed Loss Risk Change Proposal

Bieshoy Awad

November 2022

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Content

- Why Change recap
- Workshop update
- Updated Risks
- Work in Progress

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Why Change Recap?

- Current limit restricts to current normal loss of infeed risk of 1320MW leading to potential sub-optimal investment

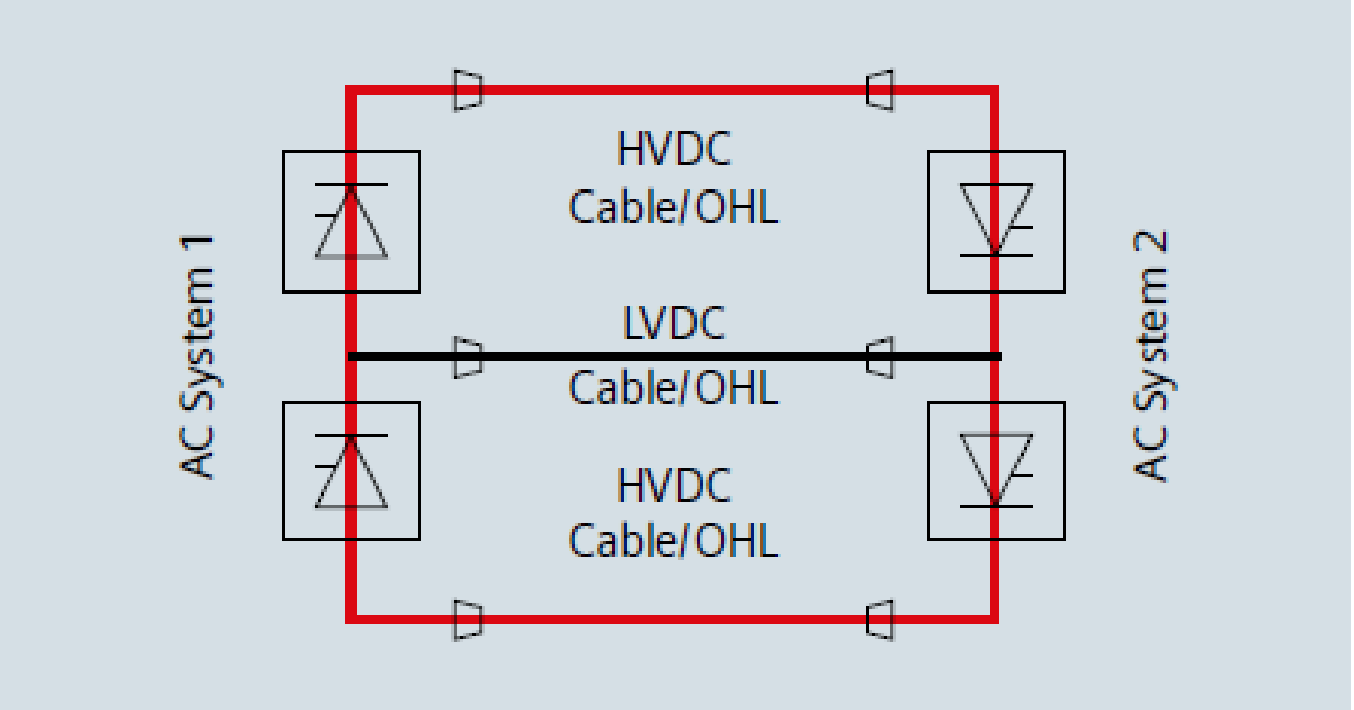
- Currently no differentiation between monopole and bipole which could lead to unnecessary restriction on the use of certain technologies

Workshop Updates

1. Treat a bipole with no common modes of failure as 2 separate DC converters – this was broadly agreed
2. Review the restrictions of the loss of infeed risk associated with the loss of a single converter – agreed that further discussion and risk assessments required

Issue 1

Bipole with metallic return



How?

- allow DC converters using a bipolar configuration with no common mode of failure to be treated as two separate converters – broadly agreed
- Revise the definition of an offshore transmission circuit to avoid restricting DC bipolar configurations –broadly agreed
- Potentially restrict 2 cables running too close – need to look at industry standards for anchor drag risk
- Potentially revise N-1-1

Revised Definitions:

broadly agreed, will be confirmed at workgroup

DC converter:

Any apparatus used as part of the national electricity transmission system to convert alternating current electricity to direct current electricity, or vice-versa. A DC Converter is a standalone operative configuration at a single site comprising one or more converter bridges, together with one or more converter transformers, converter control equipment, essential protective and switching devices and auxiliaries, if any, used for conversion. In a bipolar arrangement, where there is a common mode of failure that would cause a fault outage on either of the two poles to affect the other pole or where there are operational requirements that would mean that a planned outage on either of the two poles would require the other pole to be unavailable, a DC Converter represents the bipolar configuration. Otherwise, each of the two poles is a separate DC converter.

Offshore Transmission Circuit:

Part of an offshore transmission system between two or more circuit-breakers which includes, for example, transformers, reactors, cables, overhead lines and DC converters but excludes busbars and onshore transmission circuits. Elements of an offshore DC system within an *offshore transmission circuit* which can be isolated by means of a control system action in response to a *secured event* without affecting the rest of the circuit shall be treated as an independent *offshore transmission circuit* when applying the said *secured event.*

Address the risk associated with anchor dragging

Offshore Cable Circuits Sharing the Same Route:

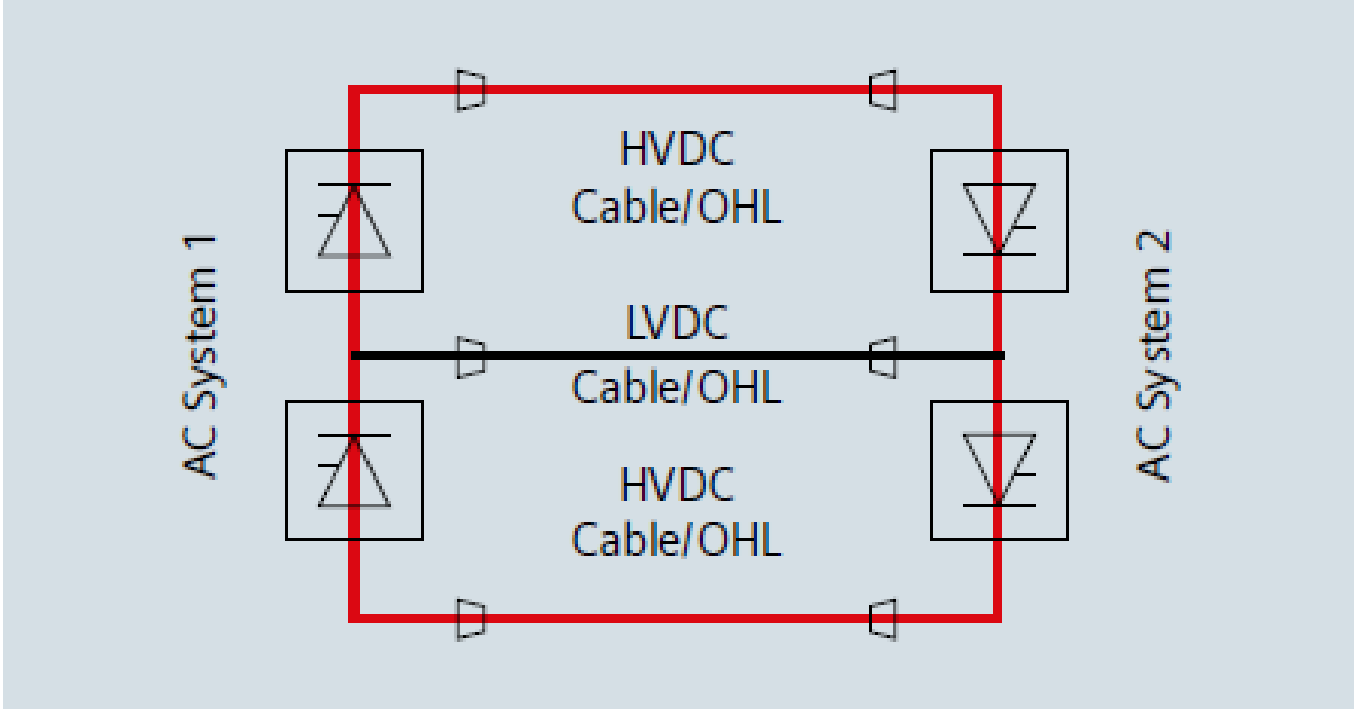
Two or more cable *offshore transmission circuits* that run within a distance of 250 meters from each other for a distance of 1000 meters or more.

Many factors to consider, not straight forward or easily defined – burial depth, proximity to shore, proximity to shipping lanes, magnetic compass issues etc

Is the N-1-1 sufficiently robust to ensure faults on metallic returns are addressed

7.8.2 following a *fault outage* of a single cable *offshore transmission circuit* during a *planned outage* of another cable *offshore transmission circuit* the maximum loss of power *infeed* shall not exceed the *infrequent infeed loss risk*.

To be confirmed by workgroup



Issue 2 – change to infeed loss risk

Why?

Assumption made during HND project, facilitates better use of offshore routes and landing points and better optimization of offshore transmission assets

How?

- Change “normal” to “infrequent” in 7.7.2.1 and 7.7.12.1
- There is a need to calculate costings for reduced number of landing points versus increased frequency costs

Issue 2 – change to infeed loss risk

Issues to consider:

- Will it lead to increase in number of excursions below 49.5Hz
- Whether there will be any costs associated with restricting this increase of frequency excursions
- Whether the costs outweigh the benefits delivered by facilitating recommendations of HND.
- To be decided through the workgroup process
- Following both workshops, we now feel the right people are at the table

Critical Friend Feedback

Code Administrator comments	Amendments made by the Proposer
Minor grammatical changes	Proposer accepted all amendments made by the Code Administrator

Timeline for GSR030 – Proposed Timeline - *Workgroup*

Milestone	Date	Milestone	Date
Modification presented to Panel	9 November 2022	Code Administrator Consultation	17 July 2023 – 11 August 2023
Workgroup Nominations (15 Working Days)	14 November 2022 – 9 December 2022	Draft Final Modification Report (DFMR) issued to Panel (5 working days)	5 September 2023
Workgroup 1 - Proposer's presentation, check Terms of Reference, initial review of legal text Workgroup 2 - Bipole, anchor drag risk, N-1-1 criteria Workgroup 3 - Scoping for cost benefit and impact assessment Workgroup 4 Refine solution(s) and materials to be provided with Workgroup Consultation Workgroup 5 Finalise Workgroup Consultation document	20 January 2023 2 February 2023 13 February 2023 3 March 2023 15 March 2023	Panel undertake DFMR recommendation vote	13 September 2023
Workgroup Consultation (15 working days)	27 March 2023 – 19 April 2023	Final Modification Report issued to Panel to check votes recorded correctly	15 September – 22 September 2023
Workgroup 6 - Discuss consultation responses, refine solution and legal text Workgroup 7 - Finalise Workgroup Report and Legal text Potential showstopper meeting to review report	5 May 2023 16 May 2023 1 June 2023	Final Modification Report issued to Ofgem	25 September 2023
Workgroup report issued to Panel (5 working days)	4 July 2023	Ofgem decision	TBC
Panel sign off that Workgroup Report has met its Terms of Reference	12 July 2023	Implementation Date	TBC – in accordance with Authority timeline

GSR030 – the asks of Panel

- **AGREE** that this Modification should proceed to Workgroup
- **AGREE** Workgroup Terms of Reference
- **NOTE** the proposed timeline

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GSR031 – Introducing Competitively Appointed Transmission Owners

SQSS Panel 9th November 2022

Gareth Stanley (& Steve Baker)

Background

- The **Energy Security Bill** was introduced to Parliament on 6 July, which makes provisions to enable competitive tenders in onshore electricity networks.
- BEIS indicate that, through the introduction of competition, consumers could see savings of up to £1 billion on projects tendered over the next ten years
- This modification aims to introduce the concept of **Competitively Appointed Transmission Owners (CATOs)** for the purposes of introducing Onshore Network Competition for the design, build and ownership of Onshore Transmission assets.
- BEIS have indicated a preference for the FSO to run tenders to appoint a preferred bidder.
- CATOs will be appointed following a tender process and will be financed through a long Tender Revenue Stream.
- To allow **Onshore Network Competition** to be implemented effectively the competition processes, obligations, technical requirements, charges, and remuneration principles need to be embedded within the relevant codes.
- The proposed modifications will enable both early and late competition and are based upon the assumption that CATOs will be granted a Transmission Licence and will be categorised as Onshore Transmission Licensees.

GSR031 'CATO' Mod

- **The ESO is now raising a new mod** to cover the requirements to facilitate introduction of Competitively Appointed Transmission Owners
- **The legal text changes are to be made in association with changes to other Codes**, including STC, CUSC, Grid Code and BSC
- The changes consist mainly of:
  - Introducing the **concept of Competitively Appointed Transmission Owner** into the Glossary & Definitions
  - Changes to **Safety and Technical Standards** to include CATO's
  - Add requirements where a CATO connects to an existing TO with distinct standard

Legal Text Changes

Please note the following points of guidance regarding the legal text changes. Please review the legal text for full details.

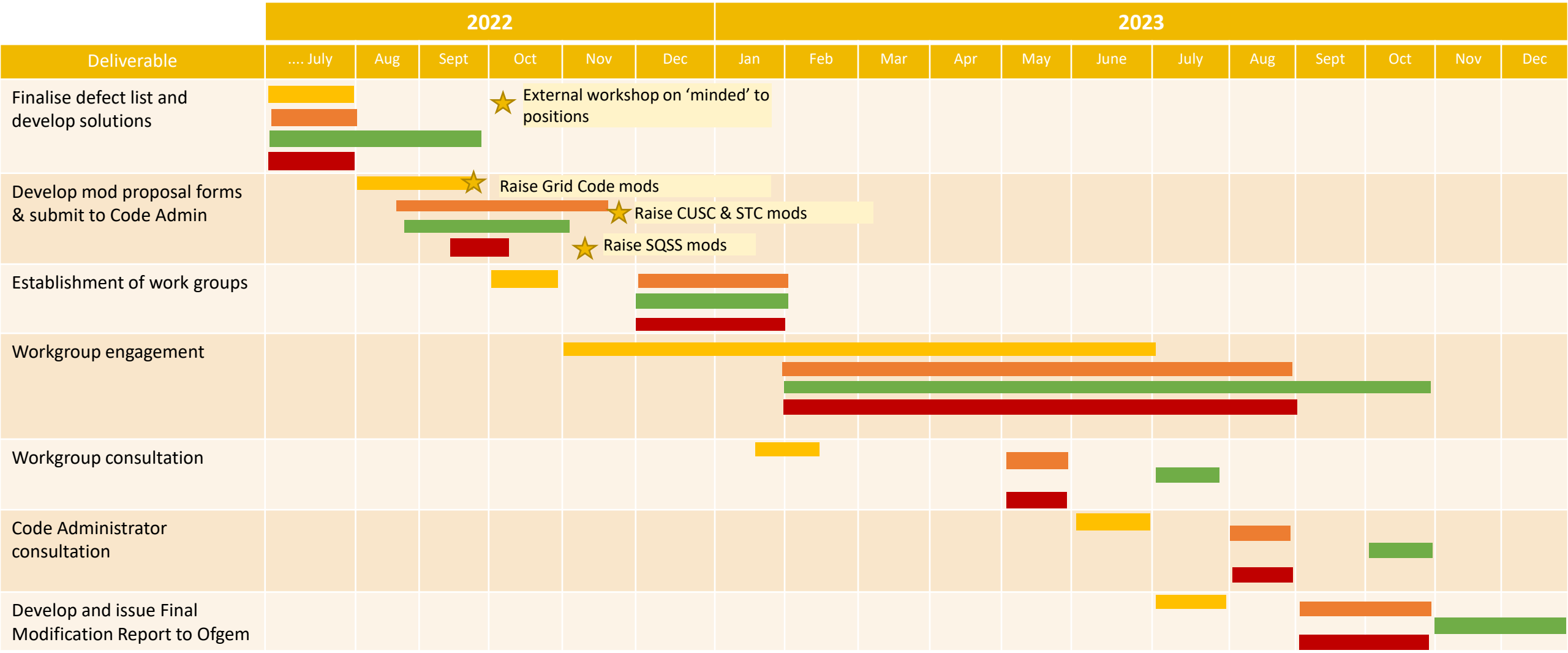
Note that the objective of this modification is to implement minimum changes to the SQSS to facilitate the introduction of CATOs to ensure continued operability of the Grid Code arrangements.

The changes listed below are made on the assumption that CATO will be introduced as a sub-category of Onshore Transmission Licensee.

- **11. Terms and Definitions**
  - Introduce “Competitively Appointed Transmission Owner” definition
  - Introduce “Onshore Interface Point”
  - Add CATO to “Onshore Transmission Licensee” definition
  - Add CATO to “Transmission System” definition where it has an Onshore Interface Point

POAP for all CATO mods

Grid code | CUSC | STC | SQSS



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Timeline for GSR031 – Proposed Timeline – *No Workgroup Consultation*

Milestone	Date	Milestone	Date
Modification presented to Panel	09 November 2022	Code Administrator Consultation	13 March 2023 to 12 April 2023
Workgroup Nominations	14 November 2022 to 02 December 2022	Draft Final Modification Report (DFMR) issued to Panel	2 May 2023
Workgroup 1: discuss proposal and finalise solution, and agree Terms of Reference	12 December 2022	Panel undertake DFMR recommendation vote	10 May 2023
Workgroup report issued to Panel	28 February 2023	Final Modification Report issued to Ofgem	22 May 2023
Panel sign off that Workgroup Report has met its Terms of Reference	08 March 2023	Implementation Date	TBC

Timeline for GSR031 – Proposed Timeline - *Workgroup with consultation*

Milestone	Date	Milestone	Date
Modification presented to Panel	09 November 2022	Code Administrator Consultation	15 May 2023 to 13 June 2023
Workgroup Nominations	14 November 2022 to 02 December 2022	Draft Final Modification Report (DFMR) issued to Panel	04 July 2023
Workgroup 1 - Discuss proposal and finalise solution, and agree Terms of Reference Workgroup 2 - Refine solution, review consultation	16 January 2023 6 February 2023	Panel undertake DFMR recommendation vote	12 July 2023
Workgroup Consultation Workgroup 3 – Review responses Workgroup 4 - Review Workgroup Report, hold Workgroup Vote	20 February 2023 to 10 March 2023 24 March 2023 4 April 2023	Final Modification Report issued to Ofgem	24 July 2023
Workgroup report issued to Panel	02 May 2023	Implementation Date	TBC
Panel sign off that Workgroup Report has met its Terms of Reference	10 May 2023		

Critical Friend Feedback

Code Administrator comments	Amendments made by the Proposer
Minor grammatical changes	Proposer accepted all amendments made by the Code Administrator

GSR031 – the asks of Panel

- **AGREE** that this Modification should proceed to Workgroup
- **AGREE** Workgroup Terms of Reference
- **NOTE** the proposed timeline

Draft modification

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Generation connection criteria – loss of outfeed

What is the problem?

- Operating as generation, Interconnectors are not explicitly defined
- Operating as demand, Storage and Interconnectors are not explicitly defined
- The absence of a restriction on the loss of outfeed risk may increase the challenges and costs associated with managing high frequency events

Issues to be considered

- The limit on the loss of outfeed risk should reflect the asymmetry between the frequency control requirements, the plant capability, and the response available around the 50Hz line.
  - It is proposed to set the outfeed loss risk at 1400MW
- Other design criteria are need to reflect the existing practice of allowing maximum export and import under reasonable background conditions.

Status

- Proposal and legal text being drafted for circulation
- Workshops to be arranged prior to formal proposal

AOB

- **GSR029** Review of Demand Connection Criteria to Align with EREC P2/7– **update on progress**
- **FRCR Update**

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Date of next meeting

Next meeting – 8 March 2023

Panel Papers Day – 28 February 2023

Modification Submission date – 21 February 2023

Close

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