

# Code Administrator Meeting Summary

## Meeting name: GSR030 Workgroup Meeting 6

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Date: 18/12/2023

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### Contact Details

Chair: Teri Puddefoot, National Grid ESO [Terri.Puddefoot@nationalgrideso.com](mailto:Terri.Puddefoot@nationalgrideso.com)

Proposer: Bieshoy Awad, National Grid ESO [Bieshoy.Awad@nationalgrideso.com](mailto:Bieshoy.Awad@nationalgrideso.com)

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## Key areas of discussion

The Chair welcomed the attendees and covered the objectives of the meeting to review the timeline, review the actions and continue reviewing the Workgroup Consultation document.

### Timeline

The Proposers felt that the latest timeline was still ambitious for the work left to complete.

During the meeting it was discussed that a sensitivity analysis was required and therefore timings would need to be adjusted. Once timings are updated to accommodate this additional work the timeline will include two additional Workgroup meetings to consider it with the solution. The Chair is aiming to share the new timings at the January SQSS Panel.

**ACTION 28** (FW): Consult with the ESO's Frequency Risk and Control Report (FRCR) team to update the Chair on timings for the sensitivity analysis.

### Action list

The Chair took the Workgroup through the actions that remain open and those proposed to be closed. See below for the updates.

The Chair requested that if slides presented by Orsted in Workgroup 5 were to be referenced in the Workgroup Consultation, they would need to be available publicly.

**ACTION 29** (NN, LC): Slides from WG 5 were to be reviewed and updated before sharing with the Workgroup for publication.

### Workgroup Consultation Review

The Proposer took the Workgroup through the solution from the 'Treatment of the DC link by a bipolar arrangement' section.

Comments were added to the document where changes were suggested by the Proposer or Workgroup members.

Key comments and actions noted:

Re: Fault Clearance

- Proposer to replace 'completely independent' with 'overall redundancy' wording when referring to the control system of each pole.
- A Workgroup member asked whether the control system should include auxiliaries, but another member confirmed that there is no single mode of failure that causes a concern for auxiliaries, e.g., cooling systems, as they have their own redundancies.
- Proposer to check that diagrams are corroborated by the text (and vice versa).

RE: Definition of Transmission Circuits

- Onshore Transmission Circuit definition to be added.
- Reference made by a Workgroup member to continued operation in 'rigid mode' (i.e., no redundancy needed on the grounding circuit) – the Proposer is to reference this in the report as Workgroup felt it would be useful to get other Original Equipment Manufacturer's feedback on this.
- A Workgroup member requested an additional diagram to reflect links with no metallic returns.

RE: Post Fault Actions

- Criteria of N-1 and N-1-1 criteria from Section 7 to be added into the document.
- Reference to 'unplanned outage' to be changed for clarity.

RE: Mechanical common modes of failure

- This section is to be reviewed by the Proposer and a respective Workgroup member, with more examples added as per the discussions.
- The definition of 'anchoring distance' is to be updated.
- The proposed sensitivity analysis will influence the narrative in this section (so it will need to be updated when the analysis is complete re: risk levels).
- Detail to be added into the 'retrospective application' section of the document as to risk levels.
- Threshold values to be agreed for the probability of high risk unplanned events.
- Similar clauses required for Section 2,3,4,5 and 8 as are being proposed for Section 7.
- The Proposer is to complete further work in this section for the Workgroup to review.

RE: The Limit to the Loss of Infeed Risk for Offshore DC Connectors

- The Proposer posed that there could be potential environmental and economic benefits from the solution and requested the Workgroup consider and share these for inclusion in the document.

- **ACTION 30** (BA): Revise wording (and diagrams) in the Workgroup Consultation as per the Workgroup discussions and comments in the document, including copying Workgroup discussions into the Workgroup Considerations section.
- **ACTION 31** (BA): Review what analysis can sit separately to the Consultation document in an Annex.
- **ACTION 32** (All): Share any environmental and/or economic benefits of this solution to the Chair/Proposer

The Chair invited the Workgroup to comment on the shared live Consultation document and would review the permissions access to this.

**ACTION 33** (Chair): Review permissions access for Workgroup members to the shared workspace.

The Workgroup had no further business to share so the meeting was closed.

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### Next Steps

- *Proposer to review the document as per the discussions and comments.*
- *ESO timings for the sensitivity analysis to be gauged.*
- *New timeline drafted for January Panel.*
- *Workgroup to share any environmental and/or economic benefits with the Chair and Proposer.*

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### Actions

Action number	Workgroup Raised	Owner	Action	Comment	Due by	Status
9	WG2	MG	Provide detail on bipole / rigid bipole faults		WG5	Closed
13	WG3	BA	A sentence should be added to an appropriate existing guidance note to ensure faults on metallic returns are addressed. Suggested sentence and suggested guidance note where this will sit to be provided	A Proposer action for post-decision if GSR030 is approved	Post-GSR030 approval	Closed

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15	4	National Grid	Review use of CBRA for cable installation to discuss at the next meeting	NA	19.10	Open
16	4	BA	Send amended wording for the definitions slide from today's presentation		25.09	Closed
17	4	BA	Consider other possible impacting factors, such as compass deviation	Factors noted in document and WG consultation question considered	29.09	Closed
18	4	JG	Share slides from today's WG presentation (after checking for commercially sensitive information)		25.09	Closed
19	4	BA	Share overhead circuit risk tolerances, calculations and rationale behind what's deemed an acceptable level of risk (and relevance to cable scenarios)		29.09	Closed
20	4	BA, FW	Compile text to cover ToR 3 - Consider retrospective impact on existing cables.	Update at WG7	05.10	Open
21	4	LC	Consider what acceptable levels of risk are, what could be included in the SQSS & BA's suggested units involved for assessing risk	ESO to instigate sensitivity analysis before WG consultation	05.10	Open
22	4	NN, BA, LC	To discuss offline - risk and associated costs (investment in reinforcing the network and build/maintenance). BA to send a written narrative to help Orsted understand this ahead of a discussion	Discussion held and risk level to be developed via sensitivity analysis	05.10	Closed
23	4	All	Consider details of the above once shared and provide a proposal for discussion at the next WG		05.10	Open
24	5	BA	Put together the wording for the intentional damage/terrorism risk	Wording for the WG consultation document rather than SQSS solution	17.11	Open

25	5	BA	Add more examples to the Mechanical Common Modes of Failure section	TBC following WG 6	17.11	Open
26	5	BA	To redraft page 10 section, reach out to SMEs	TBC following WG 6	17.11	Open
27	5	BA/ NN	Offline discussion to see if previous CBA will fit into this mod	Outcome TBC	17.11	Closed
28	6	FW	Consult the ESO's FCRC team to update the Chair on timings for the sensitivity analysis	Impacting other timeline adjustments	05 Jan	Open
29	6	NN, LC	Slides from WG 5 were to be reviewed and updated before sharing with the Workgroup for publication.		WG 7	Open
30	6	BA	Revise wording (and diagrams) in the Workgroup Consultation as per the Workgroup discussions and comments in the document, including copying Workgroup discussions into the Workgroup Considerations section.		WG 7	Open
31	6	BA	Review what analysis can sit separately to the Consultation document in an Annex.		WG 7	Open
32	6	All	Share any environmental and/or economic benefits of this solution to the Chair/Proposer		WG 7	Open
33	6	Chair	Review permissions access for Workgroup members to the shared workspace.		21 Dec	Open

**Attendees**

Name	Initial	Company	Role
Teri Puddefoot	TP	Code Administrator, ESO	Chair
Elana Byrne	EB	Code Administrator, ESO	Tech Sec
Bieshoy Awad	BA	ESO	Proposer
Fiona Williams	FW	ESO	Proposer
Marko Grizelj	MG	Siemens	Workgroup member
Nicola Barberis Negra	NN	Orsted	Workgroup member
Roddy Wilson	RW	SSE	Workgroup member

Steve Baker	SB	ESO	Workgroup member
Xiao-Ping Zhang	XZ	Academia	Workgroup member
Laurence Cross	LC	Orsted	Observer
Mick Chowns	MC	RWE	Observer
George Arvanitakis	GA	Xlinks	Observer