

# Code Administrator Meeting Summary

## Meeting name: GRS030 - Offshore DC Connections

---

Date: 20/01/2023

---

### 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)

---

### Key areas of discussion

The purpose of this Workgroup was to go through introductions, workgroup responsibilities and process, and to discuss the proposer's issues and solutions. GSR030 aims to review the restrictions on the loss of power infeed risk allowed for outages of offshore DC converters.

### Timeline review and Workgroup objectives

FW and BA to go through the proposal and Workgroup to provide comments and feedback.

Timeline presented was altered from original slides sent out due to ESO not receiving the costing data for FRCR in the timeframe originally expected.

### Terms of Reference

Workgroup went through these briefly. Subject to change after Workgroup discussion.

### Proposer's presentation

FW and BA went through the proposal slides and the Workgroup discussed the issues and potential solutions.

The Workgroup needs to consider anchor drags which may collide with Offshore wind farm cables which could lead to the loss of the grid. This will require looking at probabilities of offshore risks before deciding factors, additional statistical information is needed, and also need to consider general environmental disturbances.

---

For various modes of failure, these need to be mitigated by design, parameters and acceptable levels of risks. One option is to identify various trench approaches. Bundle cables could be the best economic solution. Will need to gather sufficient statistical information of probability of risk and think of consequential issues.

BA talked through the faults with bipole having a metallic return and consequences of risks and probabilities. One suggestion was for HDVC suppliers to test a solution.

Further revision and consideration required for the definitions of DC converter and Offshore Transmission Circuit and common modes of failures.

BA went through voltage numbers and two year consecutive faults which should drive risk assessment for anchor drag. Workgroup will need to decide what level of risk is acceptable. Assessment of risk levels affect insurance costs of cables. Workgroup members to look at their own risk level number and information can be provided by various teams on anchor drag and shipping.

**Next Steps**

Before the next Workgroup meeting, the Workgroup members have the opportunity to provide comments and feedback for further revision of DC converter and Offshore transmission circuit definitions. As well as if the N-1-1 criteria is suitable or if stronger mitigation is needed.

Placeholder for Workgroup meeting 2 to be sent for end of February 2023 to accommodate time to complete actions.

**Actions**

Action number	Workgroup Raised	Owner	Action	Due by	Status
1	WG1	MB	Share report with WG showing cable risk	WG2	
2	WG1	All	Review Legal Text wording and provide feedback	WG2	
3	WG1	All	Reflect on future impact, unintended consequence and risk, proposal and definitions	WG2	
4	WG2	All	Consider current industry data and share with WG	WG2	

## Attendees

Name	Initial	Company	Role
Teri Puddefoot	TP	National Grid ESO	Chair
Jessica Rivalland	JR	National Grid ESO	Technical secretary
Bieshoy Awad	BA	National Grid ESO	Proposer
Fiona Williams	FW	National Grid ESO	Proposer
Lewis Johnson	LJ	BP	Alternate Workgroup member
Nicola Barberis Negra	NBN	Orsted	Workgroup member
Xioa-Ping Zhang	XPZ	Academia	Workgroup member
Marko Grizelj	MG	Siemens Energy	Workgroup member
Roddy Wilson	RW	SSEN Transmission	Workgroup member
Benjamin Marshall	BM	The National HVDC Centre	Workgroup member
Colin Foote	CF	The National HVDC Centre	Workgroup member
Morris Bray	MB	The Crown Estate	Workgroup member
Darren Jones	DJ	Hitachi Energy	Workgroup member
Noel McGoldrick	NM	National Grid ESO	Workgroup member
Usman Farooq	UF	National Grid ESO	Observer
Mick Chowns	MC	RWE Renewables	Observer
Gideon Miti	GM	National Grid ESO	Observer
Gavin Baillie	GB	SSEN Transmission	Observer