ESO

Code Administrator Meeting Summary

Meeting name: GC0155 Clarification of Fault Ride Through Technical Requirements - Workgroup Meeting 12

Date: 19/09/2023

Contact Details

Chair: Milly Lewis, National Grid ESO Milly.Lewis@nationalgrideso.com

Proposer: Terry Baldwin, National Grid ESO Terry.Baldwin@nationalgrideso.com

Key areas of discussion

The Chair provided an introduction and outlined the objectives of the Workgroup.

Review of Actions Log

The Workgroup reviewed open actions and discussed the following:

- As part of the Workgroup discussion on the Original legal text Action 29 was closed
- BA noted that Action 39 was ongoing, and that Manufacturer input was required, therefore the action should remain open
- Following discussion on Action 45, the Workgroup suggested further clarification from Ofgem was required regarding compliance checks that take place and that this action should remain open.
- The Workgroup suggested that Action 47 should remain open and that further work was required by Ofgem.
- The Workgroup agreed that Action 44 and 46 could be closed

Draft Legal Text Review

BA presented the proposed Legal Text to the Workgroup details of which can be found here. The Workgroup went on to discuss the following:

- The Workgroup discussed the proposed figurers in CC.6.1.11 amended text. Some Workgroup members suggested that using the Industry standard figures may be a starting point and noted that they would like to consider 33kV and 11kV. It was agreed that the figures indicated were a starting point.
- A Workgroup member noted the importance of reactive current should the voltage rise then the turbine should be able to lower the voltage to maintain stability. It was agreed that there needed to be an understanding of what happens with reactive current injecting. Workgroup members agreed that this was possible in new turbines but not in all older plant and therefore the curve shown in the text may not work for all existing plant.
- A Workgroup member stated due to the higher impedance when connected at a lower voltage it was reactive power absorption would bring the voltage down and therefore allow turbines to ride through. Workgroup Members discussed if this was possible at higher voltage levels and noted that the 132kV curve presented Is significantly higher than the capability of the turbines.
- Some Workgroup members expressed concern over how existing turbines would cope with the proposal without significant update. A Workgroup member suggested that there is no commercial product

available that could ride through 1.3pu overvoltage, with another Member agreeing that and stating 1.6 was outside what could be absorbed. Workgroup members had differing views on potential costs to update existing plant to ensure compliance. Workgroup members went on to discuss other options that may be available.

- BA asked that AM share RMS Study results with the Workgroup (**Action 48**).
- The Workgroup went on to discuss compliance parameters and TOV levels within that, and what the mitigation may be.
- The Workgroup discussed where best the TOV limits should sit and if this should be within the fault ride through section or the system requirements section.
- ML asked the Workgroup to consider, the TOV graph and state what palatable limits be for each WG member. (**Action 49**). ML agreed to discuss with Ofgem to gain their view (**Action 50**).
- A Workgroup Member asked that BA share the results of the effects with a lower voltage which had been shared during previous workgroups (**Action 51**)**.**

Next Steps

- BA to sense check what is possible and consider next steps.

Actions

Action number	Workgroup Raised	Owner	Action	Due by	Status
29	WG7	BA	To have a conversation offline on understand GEP parameters.	WG8	Open
39	WG8	BA	Discuss CC.6.1.11 with TOs and manufactures and feedback to WG with strawman	WG9	Open
44	WG10	TB	Query with ESO if this is STC or GC issue	WG11	Closed in WG12
45	WG10	Ofgem	Check with Legal if CRM should be put in place if applying retrospectively	WG11	Open
46	WG11	BA	BA to share most up to date legal text	WG12	Closed in WG12
47	WG11	SS	Come back with feedback on action 43	Early August 2023	Open
48	WG12	AM	Share RMS/EMT Study with WG	WG13	Open
49	WG12	All	Consider TOV graph, what palatable limits might be	WG13	Open
50	WG12	ML	Discuss with Ofgem for view on Action 49	WG13	Open
51	WG12	BA	Share the results of the effects with a lower voltage	WG13	Open
52	WG12	FN	Send ML pdf document from AL	WG13	Open

Attendees

Name	Initial	Company	Role
Milly Lewis	ML	National Grid ESO	Chair
Terri Puddefoot	TP	National Grid ESO	Technical secretary
Bieshoy Awad	BA	National Grid ESO	Workgroup member
Alan Mason	AM	Oceanwinds	Workgroup member
Andrew Vaudin	AV	EDF	Workgroup member
Forooz Ghassemi	FG	NGET	Workgroup member

Fiona Williams	FW	National Grid ESO	
Fraser Norris	FN	SSE	Workgroup member
Isaac Gutierrez	IG	Scottish Power	Workgroup member
John Fradley	JF	National Grid ESO	Workgroup member
Martin Aten	MA	Uniper	Workgroup member
Mike Kay	MK	P2Analysis	Observer
Nicola Barberis Negra	NBN	Orsted	Workgroup member
Priyanka Mohapatra	PM	Scottish Power	Workgroup member Alternate
Sigrid Bolik	SB	Siemens	Observer
Tim Ellingham	TE	RWE	Workgroup member
Owen Curran	OC	Siemens	Observer
Cornel Brozio	CB	SP Energy Networks	Observer