ESO

Code Administrator Meeting Summary

Meeting name: GC0155 - Workgroup Meeting 7

Date: 19/01/2023

Contact Details

Chair: Banke John-Okwesa, National Grid ESOBanke.John-Okwesa@nationalgrideso.com
Proposer: Terry Baldwin, National Grid ESO Terry.Baldwin@nationalgrideso.com

Key areas of discussion

Review of Actions Log

- Agreed closure of Action 21 (IA and BA to meet offline as project specific)
- Action 26 template sent to chair by FW to show how TGN 288 is included in BCA's. The chair will share post workgroup as part of summary. A workgroup member raised those documents are not in the GC Governance code and should not be included in the BCA's if not listed in the grid code.
- Closure of Actions 22, 23 and 25, no objections made to this.

Temporary Overvoltage Requirements

- The ESO SME rep confirmed to the ESO that they have met with manufacturer to gain an understanding of risks on equipment and wind turbine behaviours. This was summarised in the presentation shared within the Workgroup papers.
- A workgroup member raised a query as to whether turbines have other technologies that can be explored, the ESO rep advised that they believe this is a low or no risk so were not investigated.
- The SPN rep highlighted that their network design rules and that their TOV curve was different to the one that was presented; explaining that the definitions in the SQSS is SPN followed. An action was taken to share SPN TOV curve with the Workgroup.
- It was noted that investigation is required as TOVs are triggered where low level reactors have been turned quite slowly. A request for evidence demonstrating this issue was made by the ESO SME.
- The issue of restrictions of the requirements at entry point and whether ENSTO-E requirements should be followed.

ESO Updates / Workgroup Discussions

The following comments and concerns by Workgroup members were noted in response to the ESO's updates/presentation:

Costs

- Concern of increased costs that will result from updated requirements/new requirements (especially on older Turbines). Suggestions made by the ESO SME rep to potentially alleviate costs were not

agreed by workgroup members, some claimed that regardless of how the situation will be approached more costs will be incurred. The ESO SME reiterated that cost will be borne by plant owners.

- Concern was raised around costs of equipment upgrades and fault penalties and the impact of retrospectivity changes impact not all parties. As the requirements grow how will the costs to be recovered. Who will bear the costs? The ESO confirmed that funding to support is not being considered. This needs to be discussed further
- A request by several workgroup members to consider HVRT international standards and requirements and not just that of Europe. The ESO rep expressed willingness to explore this but stated that it wouldn't change their stand.
- It was suggested that a CBA should be completed as part of the solutions proposed, the ESO rep advised that there is currently no justification / value in carrying out a CBA.

Application of TGN288 requirements

- General concern around adaptation of TGN288 requirements for technical convertors to be able to override the faults and ESO findings being heavily focused on wind turbines only and no other technologies.
- Query as the effects of application of TGN288 requirements on the Grid Entry points (GEP) and comment that the turbines have more flexibility to reconnect following a fault other than that of STATCOMs.

Engagement with OEMs

- The ESO rep provided the list of OEMs that they had engaged with as follows: Nordex, Siemens, Enercon, Power-electronics, GE Renewable Energy, Vestas. The ESO rep confirmed that HVRT capability question was also asked for older WTGs and not only the new fleets.
- Concern that presented data from OEMs is based on the new wind farms and new technology and not for existing wind turbines
- Concerns that there is no evidence to show that upgrading all converter equipment connected to the grid (wind farms, solar farms, HVDC, STATCOMs, etc.) to enhance compliance with retrospective HVRT requirements are lower than NGESO having to procure additional frequency control services.
- Request for a survey to be conducted involving existing developers as assumptions made that 1.2pu is the minimum TOV operating capability were not accurate and data should ideally, be evidence-based.

Other comments / suggestions

- It was noted that the current definition of Fault Ride Through in the grid code only refers to low voltage and would need re-defining since GC0155 will now address high voltage fault ride though requirements.
- It was suggested that, to make progress with the modification requirements, the Workgroup should evaluate current and future state separately, focusing firstly on the future state.

Review of Timeline

No objection was made to the updated to the revised timeline presented. Revised timeline would be presented to the Grid Code Panel at the next Grid Code Review Panel meeting on 26 January 2023.

Terms of Reference

Due to the meeting overrunning, there was no time to review the Terms of Reference at this meeting. This will be picked up at the next workgroup meeting.

Next Steps

- The Chair requested that a draft legal text is prepared ahead of the next meeting.
- The Chair to update the workgroup objectives within the revised timeline. Updated workgroup meeting invites will be sent out the Workgroup.

ESO

Actions

Action number	Workgroup Raised	Owner	Action	Due by	Status
1	WG7	BJO	To share with the Workgroup an email sent from FW	WG8	Complete
2	WG7	AF/BA	To have a conversation offline re documents that are within the GC appendix	WG8	Open
3	WG7	SS/BC	To have a conversation offline on understand GEP parameters.	WG8	Open
4	WG7	CB	To share with the Workgroup to network design equipment requirements from SPN	WG8	Open
5	WG7	AM	To provide evidence of problem with low level injection requirements	WG8	Open
6	WG7	BA	To check that whether the evidence from OEMs can be shared with the Workgroup	ASAP	Open
7	WG7	BA	Comparison of international standards for HVRT	WG8	Open
8	WG7	BA/TB	Provide a strawman/draft legal text on the requirements	WG8	Open
9	WG7	BA	To check with the compliance team what checks they do in a FRT scenario	WG8	Open
10	WG7	JF	To provide where the document for ENTSO-E and clause has come from	WG8	Open

Attendees

Name	Initial	Company	Role
Banke John-Okwesa	BJO	National Grid ESO	Chair
Ruth Roberts	RR	National Grid ESO	Technical secretary
Terry Baldwin	TB	National Grid ESO	Proposer
Bisheoy Awad	BA	National Grid ESO	Workgroup member
Alan Creighton	AC	Northern Powergrid	Workgroup member
Alan Mason	AM	Oceanwinds	Workgroup member
Alastair Frew	AF	Drax	Workgroup member
Andrew Vaudin	AV	EDF	Workgroup member
Forooz Ghassemi	FG	NGET	Workgroup member
Fraser Norris	FN	SSE	Workgroup member
Isaac Gutierrez	IG	Scottish Power	Workgroup member
Julie Richmond	JR	Scottish Power	Workgroup alternate

ESO

Nicola Barberis Negra	NBN	Orsted	Workgroup member
Sridhar Sahukari	SS	Orsted	Workgroup alternate
Priyanka Mohapatra	PM	Scottish Power	Workgroup member
Ryan Tumilty	RT	SSE	Workgroup member
Tim Ellingham	TE	RWE	Workgroup member
Martin Aten	MA	Uniper	Workgroup alternate
Shilen Shah	SSh	Ofgem	Authority Rep
Fiona Williams	FW	National Grid ESO	ESO SME
Xiaoyao Zhou	XZ	National Grid ESO	Observer
Andrew Larkins	AL	Sygensys	Observer
Owen Curran	OC	Siemens	Observer
Mzamoyabo Sibanda	MS	SSE Renewables	Observer
Cornel Brozio	CB	SP Energy Networks	Observer