

Code Administrator Meeting Summary

Meeting Name: GC0155 Workgroup 3

Date: 05 July 2022

Contact Details

Chair: Banke John-Okwesa, National Grid ESO Banke.John-Okwesa@nationalgrideso.com

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

Key areas of discussion

Review of Actions log

The Workgroup talked through each action in the order it had been logged. The Workgroup agreed to close actions **9, 10, 12 and 13**. Current open actions can be found in the Actions log. Discussions had around some of the actions are noted below:

- Re Action 9 (multiple ride through scenarios) – The Proposer had provided a response noted at the previous meeting which was that: *“following a review, it was established that it would be highly unlikely that this would occur in the UK due to the weather conditions and as multiple FRT currently has a low needs case, the ESO are not looking to progress it within this modification”*.
- Re Action 12 - The Chair had added an additional meeting for 12th July, however, due to changes that need to be made to the timeline following the Workgroup’s conclusion to include Overvoltage requirements, the Chair will re-scheduled this meeting to 25 July and will be modifying the timeline to accommodate the additional work to be carried out on defining Overvoltage requirements.
- Re Action 13 - No comments were provided to NGENSO by the Workgroup on the housekeeping change presented at the last workgroup meeting.

Workgroup discussion on Action 3: Request for the ESO to define Overvoltage compliance following a fault and consider undervoltage aspects:

- The ESO Rep had responded to the Workgroup prior to the meeting proposing that it would be more feasible for the Overvoltage requirements to be addressed in a separate modification due to the time and resource capacity that will be required to thoroughly investigate the issue and gather sufficient findings to define the requirements thereby, causing massive delays to the progress of GC0155.

- Following the ESO’s response, there was a proposal presentation from collaborative work done by the SSE, Scottish Power and Drax representatives on the Workgroup proposing how high voltage ride through voltage requirements can be added into the legal text. They suggested that it should apply to the European Connection Condition (ECC) only on a forward-looking basis. Although, it was suggested that perhaps a specific workgroup consultation question could be raised to determine whether to incorporate the overvoltage requirements in the Connections Conditions (CC) as well
- A Workgroup member expressed strong concern that a clear definition is required on multiple fault ride through scenarios and over voltage requirements need to be considered within GC0155. The Workgroup (asides for the ESO rep) agreed with this view. Most Workgroup members expressed concern that this is not an issue for generators only but a potential system security issue which could cause severe problems for users.
- A Workgroup member expressed that other Grid Codes around the world have implemented modifications to reflect this behaviour and drive design changes in generators that can sustain transient grid conditions. E.g., Germany, China, Denmark, Australia all have HVRT and phase jump requirements. The possibility of not having clearly defined requirements is that every developer designs the system to the rid code, which in UK is currently silent about transient performance requirements and struggles to ride through such transient conditions.
- A Workgroup member advised that NGENSO should consider the following in their planning:
 - The need to perform system studies and define transient performance requirements for future generators.
 - Understanding limitations of current generators from system security view.
 - A request made not pose a LON on generators which trip on transient conditions as it is not possible to fundamentally change the WF design without considerable costs to the developer to meet transient conditions which are not defined.
- There was a request for NGENSO to review Vector shift within the works being considered when producing the plan to present to the Workgroup.
- A Workgroup member shared a [link](#) for information in relation to Project Resilient Electric Vehicle Charging (REV) will analyse the impact of Electric Vehicle (EV) charging on grid short term (1 cycle to 10 seconds) frequency and voltage stability, and cascade fault prevention and recovery.

Next steps

- The Chair advised that following on from discussions and agreement from all Workgroup members, overvoltage requirements will be included within this modification and a timeline review will be required. The ESO rep advised that this will need about 6-month extension.
- The Chair will modify the timeline, circulate the updated version to the Workgroup then present it to the Grid Code Panel for approval in July Panel meeting.
- A planning meeting has been agreed for Monday 25th July for NGENSO to present a plan of the work required, timescales and expected outputs.

The following actions were noted:

Actions Log

Action Number	Workgroup raised	Owner	Action	Comment	Due by	Status
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14	WG3	BA/TB	To produce a plan and timelines required for additional work to add overvoltage requirements following a fault into this modification	25 th July 2022	Open
15	WG3	All	For all the Workgroup members to send Bieshoy the issue and what they feel need to be considered in defining overvoltage requirements.	25 th July 2022	Open

Participants

Attendees	Initials	Company	Position
Banke John-Okwesa	BJO	Code Administrator National Grid ESO	Chair
Ruth Roberts	RR	Code Administrator National Grid ESO	Technical Secretary
Terry Baldwin	TB	National Grid ESO	Proposer & Workgroup Member
Alan Creighton	AC	Northern Powergrid	Workgroup Member
Alan Mason	AM	Oceanwinds	Workgroup Member
Alastair Frew	AF	Drax Power Station	Workgroup Member
Andrew Larkins	AL	Sygensys	Workgroup Member
Andy Vaudin	AV	EDF	Workgroup Member
Bieshoy Awad	BA	NGESO	NGESO rep
Frank Martin	FM	Siemens	Workgroup Member
Fraser Norris	FN	SSE	Workgroup Member
Garth Graham	GG	SSE	Workgroup Member
Priyanka Mohapatra	PM	Scottish Power	Workgroup Member
Martin Aten	MA	Uniper	Workgroup Member
Tim Ellingham	TE	RWE	Workgroup Member
Sridhar Sahukari	SS	Orsted	Workgroup Member
Fiona Williams	FW	NGESO	NGESO rep & Observer
Julie Richmond	JR	Scottish Power	Observer
Mike Kay	MK	Independent	Observer

For further information, please contact Banke John-Okwesa.