

Code Administrator Meeting Summary

GSR029: Review of Demand Connection Criteria to Align with EREC P2/7 Workgroup 4

Date: 07 November 2022

Contact Details

Chair: Milly Lewis, National Grid ESO milly.lewis@nationalgrideso.com
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Key areas of discussion

The Workgroup discussions are summarised according to agenda items:

Review of Actions Log

The Workgroup reviewed the Actions Log and agreed to close action 10 and 11. Actions 12 and 13 were closed off during the meeting. Actions 5, 6, and 7 are still open as they are pending on data the TO (Transmission Owner) reps need to provide.

Review Methodology for Security Contributions for Large Power Stations

CL took the Workgroup through the [Engineering Report \(EREP\) 130](#) to discuss the three approaches for assessing the contribution from Non-Contracted Distributed Generation (DG) to System Security.

- **Approach 1:** The Workgroup discussed table 'D.2.3 Recommended values for Persistence Time (Tm)' ([page 45](#)). Workgroup Members will need to speak to the Imperial College London report authors to clarify the methodology, rationale and assumptions behind the persistence times, and applicability to transmission. Tm is dependent on security contributions, if there was to be an outage this could cause a potential overload at peak demand and depending on the season the contributions would reduce or increase.
- **Approach 2:** The Workgroup discussed how this approach used the concept of a 'capacity factor' which due to the lack of available data there was a need for judgement to be applied when using the methodology.
- **Approach 3:** The Workgroup discussed the spreadsheet developed for assessing the security DG ([covered within the EREP 131 guidance document](#)).
 - For the calculation of the security contribution of Non-Contracted DG and Electricity Storage (ES) connections, Workgroup members raised concerns around the need to be clear if the forecast the security contribution is from existing and /or future generation.
 - The Workgroup agreed the input data which is required, and which party is best placed to access it currently and the new methodology needs to be established. In reviewing the spreadsheet, it appeared it was not designed for Grid Supply Point (GSP) level with only fields for up to 10 DG and ES connections. Workgroup members will speak to the London Imperial College for their view on

the applicability of the spreadsheet method rolled up to GSP level and consider if their analysis on probability is acceptable.

- The TOs are currently applying the [GSR008 Table 3.2](#) page 22, but this only applies to NGET and not Scotland. From the TO perspective the export capacity is the issue more than security and Scotland does not have an equivalent.
- Capacity outage and probability tables in the [\(EREP\) 130](#) page 75, divide intermittent and non-intermittent generation. In the spreadsheet you need to add a demand and generation profile. In the summer there will be a different number of contributions with demand. Wind will need to be considered separately which can't be done in the spreadsheet and therefore there are limitations.

Review Methodology for Security Contributions of Storage

AC took the Workgroup through a presentation on the Battery Energy Storage Systems (BESS) behaviours and the resulting diversity factors, as well as the analysis of data from BESS and associated GSP sites. The Workgroup will consider how an ES connection can provide a security contribution where it is creating the demand problem. It might be reasonable to assume that a BESS will be exporting at the 'traditional' peak even if it is creating a new peak and should consider BESSs as zero contribution unless contracted. The Workgroup discussed that future code modifications may need to be considered for BESS to provide load curve/operational profiles, and control mechanism for all BESS over a given size. There needs to be clarity on what is contracted and non-contracted, as well as how to identify diversity in storage.

Outstanding Concerns

The Workgroup talked through outstanding concerns which had not been captured within the methodology reviews, this included:

- what guidance may be required in the Grid Code, SQSS and STC regarding week 24 data (being mindful of the GC0139 and GC0117 modifications);
- the impact assessment on changing group demand from net demand to gross demand. And on changing the assessment of large power station demand security contribution;
- ensuring a consistent approach is used for tertiary and TIP connected power stations; and
- providing greater visibility of contracted services (including NGESO and TO) from customers embedded in distribution networks. And the need to agree who is going to assess the security contribution from embedded large power stations.

Review and update on Legal Text

The Workgroup discussed the draft legal text, and it was agreed that once another review is completed, an update version of the legal text will be submitted. The legal text will need to clarify the detailed assessment requirements for the relevant party (this may be in SQSS or the Grid Code depending on who does the assessment).

AOB / Next Steps

The Chair summarised next steps as follows:

- Timeline to be revised to allow further solution refinement ahead of the Workgroup Consultations
- Next meeting to be 21 November 2022 to focus on the outstanding concerns

Actions Log

Number	Action	Owner	Status
5	TOs to provide feedback on the impact assessment for group demand using Method 1 and/or Method 2 (depending on the site)	TO Reps	Open
6	TOs to advise on current practice when assessing the contribution from large power stations	TO Reps	Closed
7	TOs to assess the contribution from large power stations using the methodology in in EREP 130 and compare with the current practice to understand the impact for the change.	TO Reps	Open
10	Check what Wokingham does with the data submitted and revert to WG.	BA	Closed
11	Prepare Impact assessment on an example and try to apply it to the whole GB	BA	Closed
12	To include the Methodology for Security Contributions Large Power Stations	WG	Closed
13	Understand the impacts of ANMs schemes on group demand and security contribution calculations	WG	Closed
14	Check persistence time for the SQSS table 3.2 in GSR008	BA/ TB	Open
15	Review Imperial College Report and speak to authors for clarity	BA, AC, CL	Open
16	Understand how battery output in the ESO POUYA model is produced	BA	Open
17	Speak to ESO Pathfinder and Dynamic Containment reps to see contracts the ESO have with batteries	BA	Open
18	Update flow diagrams shared in Methodology review	CL	Open
19	Confirm which section of the Grid Code links to GSPs/ demand contracts (Operating Code 2 or Planning Code)	BA	Open
20	Confirm if the questionnaire prepared by the connections team is being used in SPT	GV	Open

Participants

Attendees	Initial	Company	Position
Milly Lewis	ML	Code Administrator National Grid ESO	Chair
Jessica Rivalland	JR	Code Administrator National Grid ESO	Technical Secretary
Catia Carvalho Gomes	CCG	Code Administrator National Grid ESO	Observer
Alan Creighton	AC	Northern Powergrid	Workgroup Member
Bieshoy Awad	BA	National Grid ESO	Alternate
Can Li	CL	National Grid ESO	Proposer
Graeme Vincent	GV	SP Energy Networks	Workgroup Member
Le Fu	LF	National Grid Electricity Transmission	Workgroup Member
Matthew White	MW	UK Power Networks	Workgroup Member
Peter Stanton	PS	National Grid Electricity Transmission	Alternate
Andy Hood	AH	Western Power	Workgroup Member
Roddy Wilson	RW	Scottish & Southern Energy	Workgroup Member
Terry Baldwin	TB	National Grid ESO	Workgroup Member
Zivanayi Musanhi	ZM	UK Power Networks	Observer

For further information, please contact the Code Administrator.