

## NOTES

### ENA Electricity Networks and Futures Group G100 Review Working Group

Friday 30 November 10:00

#### Attendees:

Name	Initial	Company
Andrew Hood - Chair	AH	WPD
Richard Harrison	RH	Clarke Energy
Ian Wassman	IW	AMPS (Comap-Controls)
Chris McCann	CMC	ENA
Mike Kay	MK	ENA
Peter Twomey	PT	ENWL
Chris Marsland	CM	Euro Site Power
David Hill	DH	NI Networks
Alan Creighton	AC	NPg
Thomas Newby	TM	The Phoenix Works
Jason Kirrage	JK	Solar Edge
Alistair Oldfield	AO	SPEN
Jonathan Mitchell	JM	SPEN
Calum Jardine	CJ	SSEN
Marcos Lamas Diez	LM	UKPN

#### Apologies:

Name	Initial	Company
Steve Mockford	SM	GTC-UK

#### ACTIONS LIST

No.	Detail	Leader	Date	Complete
1	Brief DCRP on WG	CMC	03/12	✓
2	Update ToRs	MK	07/12	✓
3	Discuss multiple G100s within DNOs	MK	24/12	✓
4	Circulate diagrams of multiple and other installations	MK	24/12	✓

5	Comment on slides, 26, 28-30, 32, 36, 38.	ALL	24/12	✓
6	Establish if PAS 1878 and 1879 can be circulated, and do so.	CMC	07/12	✓
7	Add LV voltage option to HV voltage requirements	MK	24/12	✓
8	Review Timeline – at next meeting	CMC/ MK	06/01/21	✓
9	Book next meeting	CMC	07/12	✓

**NOTES**

Item	Focus	Leader	Date
1	<p><b>Welcome, Introductions and Acceptance of Agenda.</b></p> <p>AH welcomed WG members and then all WG members introduced themselves in turn.</p> <p>The agenda were agreed.</p>		
2	<p><b>Status of the WG – possible future DCRP interaction</b></p> <p>AH explained that this WG was really a spin-off from the Distributed Energy Resources Technical Forum (DER TF), where a number of problems with G100 had been identified. The DNOs will be briefing the Distribution Code Review Panel (DCRP) of the issues, and the work, and ask the DCRP to consider if G100 should become a DCRP governed document.</p>	CMC	03/12
3	<p><b>Background – why G100 needs to be reviewed</b></p> <p>MK recounted some of the issues that had come up formally at the DER TF, and some from elsewhere. The list on slide 6 is those that were notified in writing to the DER TF following discussion there and a request for additional points.</p>		
4	<p><b>Draft Terms of Reference</b></p> <p>The draft ToRs were discussed. It was noted that there was a word missing from para 3 of the ToRs.</p> <p>CM suggested that some recognition of the commercial effect of technical requirements was appropriate and MK agreed that the ToR could reflect the general requirements on this from the DCRP's constitution and rules governing modifications.</p> <p>MK to make both these changes and recirculate the ToR.</p>	MK	07/12



5	<p><b>Agreement of scope and principles</b></p> <p><b>a) Purpose and Scope</b></p> <p>The overall approach, purpose and scope on slide 10 and 11 were agreed.</p>		
	<p><b>b) Modes of Operation</b></p> <p>The modes identified were discussed. It was noted that Modes 1 and Modes 2 might be hard to distinguish. MK agreed with this, but pointed out it was operation in Mode 2 (ie outside design limits) that defined the practical limits on the sizes of generation (or demand).</p> <p>TM and JK pointed out that practical installations could have more than one G100 device. MK initially said that he thought this might be OK as their behaviour could be additive, provide there were no common mode effects. RH challenged this as only one device should be in overall control of what flows across the boundary. AMC suggested that it would be helpful to draw out possible arrangements to aid understanding.</p> <p>MK to arrange discussion on this point with DNOs, create some diagrams for discussion at next meeting.</p> <p>The constrain criteria were discussed an it was recognized that the replacement of the fixed 5s maximum time for operation with variable times between 60s and 3 minutes depending on the criterion was a step forward. It was noted that the voltage criterion of remaining within +11%, -9% might be the most limiting criterion of the three.</p>	MK	24/12
	<p><b>c) Performance Requirements</b></p> <p>The high level proposals were discussed. It was agreed that members would consider what was required here (slide 26) and would report back in advance of the next meeting.</p> <p>It was noted that PAS 1878 and 1879 might be relevant. CMC will confirm that these can be circulated and will then do so.</p>	ALL  CMC	24/12  07/12

	<p><b>d) Operation outside limits and failsafe</b></p> <p>The high level proposals were discussed. It was agreed that members would consider what was required here and would report back in advance of the next meeting.</p> <p>MK asked that those with manufacturer or other relevant experience/knowledge would review if there were appropriate standards etc to consider. It was agreed that members would consider what was required (slides 28-30) here and would report back in advance of the next meeting.</p>	ALL	24/12
	<p><b>e) Measuring inputs/instrument transformers</b></p> <p>The suggested approach was discussed. It was noted in relation to voltage signals at HV where a VT might be required ,it might be possible instead to use a LV input to establish power flow direction, as there was no current proposal to measure power flows (ie only current magnitude and direction). To be added to the options.</p> <p>It was agreed that members would consider the proposals (slide 32) overall and report back.</p>	MK ALL	24/12 24/12
	<p><b>f) Non-exporting generation sites</b></p> <p>MK explained that this option existing in G99 and that it might be useful to point to in in G100.</p>		
	<p><b>g) Limits for 100A supplies and type testing</b></p> <p>It was agreed that members would consider the proposals (slide 36) overall and report back.</p>	ALL	24/12
6	<p><b>Drafting Approach</b></p> <p>MK explained that the existing structure of G100 should probably be retained, but updated as suggested on slide 38. Comments on this would be welcome</p>	ALL	06/01/21
7	<p><b>Timeline</b></p> <p>It was suggested that given many of the issues raised today needed further discussion it would be sensible to arrange a meeting in the new year and take stock of the timeline at that meeting.</p>	MK/CMC	06/01/21
8	<p><b>AOB</b></p> <p>None</p>		
9	<p><b>Actions and Next Meetings</b></p> <p>It was agreed to hold the next meeting on 06/01/21, starting at 1400 and scheduled to run to 1630.</p>	CMC	07/12