

NOTES

ENA Electricity Networks and Futures Group DER TECHNICAL FORUM

03 JULY 2019, 1030 START

Attendees in Person:

Name	Initial	Company
Peter Twomey	PT	Electricity North West
Tim Moore	TMr	UKPN
Anuj Chhettri	AC	Northern Powergrid
Mike Kay	MK	ENA
Sue Pilcher	SP	SPEN
John Ruddock	JR	Deepsea
Vincent Hay	VH	ENA
Ian Wassman	IW	IPU
Tony Mason	TMn	Siemens
Hui Heng	HH	SSEN
Luis Mayor	LM	PSE2 Consulting
Paul Carpenter	PC	Solis
Alan Guiver	AG	Agren
Graham Bone	GB	Infinis Energy
Nick Gall	NG	Solar Trade Association
Martin Davis	MD	Viridor
Carwyn Grange	CG	Conrad Energy

Attendees by teleconference:

Name	Initial	Company
Chris Marsland	CM	EuroSite Power
Dick Allen	DA	BHA
David Hill	DH	NIE

Apologies:

Name	Initial	Company
Sara Carter	SRCa	Ricardo
Konstantinos Pierros	KP	Enecon
Andy Hood	AH	WPD

ACTIONS LIST

No.	Detail	Leader	Date	Complete
1	Publish previous minutes etc	VH	12/07	✓
1.1	Update connection forms on ENA website	VH	12/07	✓
2	Re-issues updated Issues Log	MK	12/07	✓
2.1	Issue 81 to next Forum	MK/ SRC	10/01	
2.2	Issue 82 – check and close	MK	12/07	
2.3	Issue 83 – add to the modification log and close Include table of reactive requirements in next G99 modification. All to comment on table	SRC MK SRC ALL	01/10 04/07/ 01/10 01/10	✓
2.4	Issue 84 to next forum	MK	01/10	
2.5	Close and add to modification list	MK SRC	04/07 01/10	✓
3.1	Continue to review/refine approach	DNOs	01/10	
3.2	Issues 53, 56, 69, 70, 72, 73, 80 – close	MK	04/07	✓
3.3	Issue 55 – confirm and close. Add note to refer to annexes in next G99 modification	MK SRC	12/07 01/10	
3.4	Issue 61 and 79 – keep open.	MK	01/10	✓
4	Discuss what can be inferred from existing or other simulations and compliance tests. CG/AG to do the same – and then all to compare notes	MK SRC AG CG	19/07 19/07	
5.1	Comment on tables	All	12/07	
5.2	Add a “rationale” column and recirculate	MK	12/07	
8	Add new issue for LFSM-O tolerances	MK	04/07	✓
9	Next meeting – 01/10	All	01/10	✓

NOTES

Item	Focus	Leader	Date
1.	<p>Previous minutes and TOR</p> <p>The previous minutes were approved. It was noted that the approved minutes and accompanying issue log at that date and slides for the meeting would be published on the ENA Website.</p> <p>Members queried when revised connections forms would be available on ENA's website. VH suggested these would be made available within 1-2 weeks. VH to confirm when new forms are published.</p>	VH	12/07/19
		VH	12/07/19
2.	<p>Review of recent Tech Forum Queries</p> <p>Reference should be made to the DER Technical Forum Record of Issues log and the slide pack used during the meeting – "190703 ENA DER Tech Forum 190704.pptx".</p> <p>Mike to update the Issues log with the output of the meeting – as noted below.</p>	MK	12/07/19
2.1	Iss 81 – the issues of families of units/modules is under review and an update will be brought to the next Forum	MK/SC	01/10/19
2.2	Iss 82 – noted that the answer seemed to address the issue in a non-contentious way. MK to check with the originator that the issue can be closed	MK	12/07/19
2.3	<p>Iss 83 – LM explained the possible confusion that could arise here. MK explained the reasons for the way it is drafted, including harmonization with the Grid Code. However all accepted that the proposed amendment to the definition of registered capacity was helpful. The issue could be closed, but the helpful explanatory slides would remain part of the Issues Log.</p> <p>MK/SRC to add to list of proposed amendments for the next formal G99 modification.</p> <p>It was also noted that the table (circulated last meeting as well) was helpful here. It too would be included in the next modification to G99. Comments on it are still welcome.</p>	MK	04/07/19
		SRC	01/10/19
		SRC	01/10/19
		ALL	01/10/19
2.4	Iss 84 is still under review by the DNOs. To be updated	MK	01/10/19
2.5	Iss 85 – all agreed with the simple solution suggested for this – to be added to the amendment list.	SRC	01/10/19
3	Review of previous Tech Forum Queries		
3.1	Iss 40 – noted that this is still under discussion. DNOs now believe that a generic simulation for FRT will need an assumed minimum fault level. They are considering the implications of this. It was noted that German standards assume a minimum fault level of 50MVA, or 10x the apparent power of the module if that is >50MVA. Again this solution might work well in GB for the majority of installations. DNOs are still considering this.	DNOs	01/10/19

3.2	Iss 53 and 56 – agreed to be closed by their owner	MK	04/07/19
3.3	Iss 55 – MK to confirm with owner that can be closed – although it was noted that it would be helpful to make references, in the next G99 modification, to the more detailed description in the Annexes.	MK	12/07/19
		SRC	01/10/09
3.4	Iss 61 and Iss 79– agreed to be held open pending any other feedback on the forms. Noted that it might be useful to highlight on the forms which part do not apply to storage (currently).	ALL	01/10/19
		SRC	01/10/19
3.5	Iss 69 and 70 – no feedback from their owners for a couple of months – so will be closed	MK	04/07/19
3.6	Iss 72 – this has been taken on board by the ENA, so can be closed.	MK	04/07/19
3.7	Iss 73 – confirmed not material and can be closed	MK	04/07/19
3.8	Iss 80 - agreed to be the same as Issue 83 above – and can be closed	MK	04/07/19
4	<p>Gas Engine issues</p> <p>CG and MD outlined the issues they were currently facing: a stock of second-hand reconditioned gas synchronous generating units of sizes in the range 1MW to 3MW that are no longer supported by the original manufactures, making it effectively impossible to discover the unit key parameters (such as inertia, reactances, control loop parameters for governor, fuel supply, AVR etc).</p> <p>Because these values are needed for the RfG-compliant simulations, if they cannot be identified, or appropriately substituted, it becomes impossible to comply with the RfG requirements in G99.</p> <p>It was noted that many, if not nearly all requirements, could be demonstrated by site tests. However the FRT simulation can not be replaced or validated by a specific test (<i>post meeting note – the RoCoF withstand compliance could be similarly challenging</i>).</p> <p>The required simulations are in many cases (although clearly not for FRT) substantiated by the site commissioning tests. The meeting wondered whether by critically examining the tests and simulations required for Type B (and possibly if helpful Type C) could be used to give confidence that a FRT simulation using the same parameters as other verified simulations could give the necessary confidence.</p> <p>It was agreed that MK would discuss the possibilities of this with SRC.</p> <p>CG and AG would also look to review what could be achieved here, possibly via consultancy support, and also in terms of module testing with either the stock units, or similar/identical modules already installed (under G59) on sites where tests could be performed.</p>	<p>MK/ SRC</p> <p>AG/CG</p>	<p>19/07/19</p> <p>19/07/19</p>

	All to compare notes and determine if there is merit in further work.		
5	<p>Retrospective Application of G99 to G59 installations</p> <p>The meeting stepped through the first draft of examples. MK stressed that this was early thinking from the DNOs to stimulate discussion and did not represent a settled DNO view at this stage.</p> <p>He noted that it would be helpful if the tabulation included a column for the rationale behind each example and outcome – he would add this and circulate to the Forum.</p> <p>In the meantime forum members’ views on the examples would be most welcome</p>	MK	12/07/19
		ALL	12/07/19
6.	<p>ENA Database and Compliance</p> <p>VH gave an update on the actions being taken by DNOs to identify possible issues of compliance in the information lodged in the database by manufacturers. He explained why removing manufacturer’s information, even if the ENA and/or DNOs had significant concerns over compliance was not really an option. MK reminded the Forum that compliance was ultimately the Generator’s responsibility, and that it needed to be dealt with contractually between Generator and manufacturer.</p> <p>ENA is trying to help here by identifying to manufacturers where there are manifest defects in the information they have lodged, ie before it becomes an issue of compliance between Generator and DNO.</p> <p>VH updated the Forum re his expectation that one manufacturer would be submitting formal equipment certificates soon. This would be very welcome, as such certification removes any likely question of compliance. As more equipment certificates come into existence DNOs would look to find ways to incentivize other manufacturers, owners and developers to use equipment certificates.</p>		
7	<p>G99 updates</p> <p>Amendment 4 – minor technical issues and housekeeping approved by Ofgem on 18/06.</p> <p>GC0111 (Fast Fault Current Injection) modification sent to Ofgem on 20/06. In theory, if Ofgem stick to their timetable, this could be approved around the end of August.</p> <p>Noted that the new list of outstanding issues for G99 amendment should probably be progressed reasonably quickly with a view to getting G99 back to Ofgem for any update with the minimum delay.</p>	MK	01/10.19
8	<p>AOB</p> <p>MK noted the issues related to LFSM-O compliance and the lack of defined tolerance for the compliance tests. This has been raised by Andy Hood, and PC had also been in touch with MK about this. MK said he would add this to the issue log and propose a response. MK also noted that PC might want to</p>	MK	04/07

	consider the tests proposed in A.7.2.4 as a valid alternative to the tests in A.7.1.3,		
9	Next meetings: Tuesday 01 October 2019 at 1030. Venue: 4 More London Riverside, London, SE1 2AU		