

Minutes

Meeting name	Grid Code Review Panel
Meeting number	78
Date of meeting	16 March 2016
Time	10:00am – 3:00pm
Location	National Grid House, Warwick.

Attendees

Name	Role	Initials	Company
Andy Wainwright	Chair	IP	National Grid
Ryan Place	Code Administrator	RP	National Grid
Gareth Evans	Authority Representative	GE	Ofgem
Andy Vaudin	Large Generator (>3GW) Member	AV	EDF Energy
Campbell McDonald	Large Generator (>3GW) Member	CMD	SSE
Guy Phillips	Large Generator (>3GW) Member	GP	Uniper
Tom McCartan	Externally Interconnected System Operators Member	TM	SONI
Alan Creighton	Network Operator (E&W) Member	AC	Northern Powergrid
Jim Barber	Network Operator (Scotland) Member	JB	SSE
Graeme Vincent	Transmission Licensee (SP Transmission) Member	GV	Scottish Power
Roddy Wilson	Transmission Licensee (SHE Transmission) Member	RoW	SHE Transmission
Robert Longden	Suppliers	RLo	Cornwall Energy
Nick Rubin	BSC Panel Member	NR	ELEXON
Graham Stein	NGET Member	GS	National Grid
Tim Truscott	NGET Member	TKT	National Grid
Le Fu	NGET Member	LF	National Grid
Richard Woodward	NGET Member	RJW	National Grid
Presenters			
Antonio Del Castillo	NGET Presenter	ADC	National Grid
Alex Jakeman	Guest Presenter	AJ	UKPN
Matt White	Guest Presenter	MW	UKPN
Richard Wilson	Guest Presenter	RWi	UKPN
Franklin Rodrick	Guest Presenter	FR	National Grid
Alternates			
Martin Queen	Authority Alternate	MQ	Ofgem
Alastair Frew	Large Generator (>3GW) Alternate	AF	Scottish Power
John Norbury	Large Generator (>3GW) Alternate	JN	RWE
Gordon Kelly	Network Operator (Scotland) Alternate	GK	Scottish Power
Sigrid Bolik	Generators with Novel Units Alternate	SB	Senvion
Richard Lowe	Transmission Licensee (SHE Transmission) Alternate	RL	SHE Transmission

Apologies

Name	Role	Initials	Company
Mayure Daby	Authority Representative	MD	Ofgem
Guy Nicholson	Generators with Novel Units Member	GN	Element Power
Craig McTaggart	Transmission Licensee (SP Transmission) Alternate	CMt	Scottish Power
Philip Jenner	Large Generator (<3GW) Member	PJ	Horizon Nuclear Power
Dave Draper	Large Generator (<3GW) Alternate	DD	Horizon Nuclear Power
Steve Cox	Network Operator (E&W) Member	SC	ENW

Lisa Water	Generator (Small and/or Medium) Alternate	LW	Waters Wye
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1 Introductions & Apologies

4307. Apologies were received from: PJ, GN, MD, DD, CMt, SC, LW

2 Approval of Minutes

a) January 2016 GCRP Minutes

4308. Comments were received from JN, AV, RL and TKT. The minutes were approved by the Panel.

ACTION – RP to update the website with approved minutes.

3 Review of Actions

a) Summary of Actions

4309. **Minute 4181 and 4182: Grid Code Process Review.** RP noted that the current Grid Code process review has been placed on hold until the Authority decision on GC0086.

4310. **Minute 4142: Grid Code Process Review.** RW noted that the new template has been developed and used for the UKPN issue due to be presented later in the meeting and invited any comments. RP confirmed that there is still an issue with the template being uploaded to the website.

4311. **Minute 4196: GB RES Suite of Documents.** RP confirmed that a meeting has been held between the TO representative of SHET, SPT and NGET in order to discuss the progression of the action. It was confirmed that the outcome of the discussion is that all the Transmission Operators (TO) will attend the GCDF in April to discuss: the differences between TO regional standards, the potential consolidation of a RES Suite of Documents and the owners of these documents. It was confirmed that this action has now been closed and a new one will be opened to cover the progress of this work stream.

4312. **Minute 4196: 3-4 RES documents still at 'draft'.** RP noted that 2 comments have been received from JN and AC on the 'Voltage Dividers' and 'Voltage Transformers' RES documents currently out to consultation. RP confirmed that NGET are now looking at addressing these comments and will provide a response in due course. For the 2 remaining documents currently as 'draft' a workshop will be run to discuss with the user the reasoning behind the criteria in the standards with a view to making these final following the workshop.

4313. **Minute 4247: Legal text for RES.** On the agenda for this meeting.

4314. **Minute 4301: SPT and SHET RES documents.** RP confirmed that for the RES document to be ready for approval from the panel, minor tweaks need to be made to the naming convention of the E&W RES documents on the website, in the SHET document and there are also some points to clarify from NGET. In order for the SPT RES document to be presented to Panel for approval, they need to address the comments made by SSE. RP confirmed that on a call with SPT on the 7th March they are looking at amending their standards to remove any references to internal SPT standards which are not publically published. The target is to bring both TO RES documents to the May Panel for final approval.

4315. **Minute 4257: GC0087 amended title.** RP confirmed the changes had been made to the Progress Tracker.

4316. **Minute 4257: GC0079 and GC0087 Titles and Descriptions.** RJW confirmed that this had not been done yet but amendments will be made for the May Panel.
4317. **Minute 4299: Update on Power Available (PA).** RJW stated that he did not have an update to provide to the panel on the PA project implementation. CMD wished to express his frustration with the lack of communication that has been provided around the PA project considering the length of the workgroup process and time commitment to this from industry. RJW stated that the signal is now ready to use, and that a trial will be done with current generation assets. RJW confirmed that he will get the Contract Services team in National Grid to provide an update presentation at the May Panel.
4318. **Minute 4300: EBS Update.** On the agenda for the meeting.

ACTION –update on PA at the May Panel.

4 New Grid Code Development Issues

4319. **SHE Transmission/ SP Transmission Electrical Standard Update.**
4320. RP confirmed that for the RES document to be ready for approval from the Panel minor tweaks need to be made to the naming convention of the E&W RES documents on the website, in the SHET document and there are also some points to clarify from NGET. In order for the SPT RES document to be presented to Panel for approval, they need to address the comments made by SSE. RP confirmed that on a call with SPT on the 7th March they are looking at amending their standards to remove any references to internal SPT standards which are not publically published. The target is to bring both TO RES documents to the May Panel for final approval.
4321. RW stated that a revised set of General Conditions to the Grid Code were distributed to get comments from the panel on the changes to the annex referring to SHET standards that will be made as a result of the SHET Interface document in order for the Panel to comment on this. FR confirmed that the System Operator has spoken to the TO and they have confirmed that the version and naming convention in the amended General Conditions section is now correct.
4322. JN commented that it would be useful when cross referencing the interface standards to see the issue date and version number on all documents and in the General Conditions Annex. He also flagged that the SHE Transmission references need to be amended in annex (d). CMD then asked the group what annex (b) is applicable to? It would be helpful to make it clear that the comments laid out in annex (b) are applicable across GB.
4323. RW agreed for consistency that it needs to be ensured that the title of all the documents have the same naming convention and that while including references to the issue of each document will mean a greater volume of changes to the annexes this is also important for completeness and coherence. RW then brought to the Panel's attention the agenda item at GCDF on April 14th where each of the TO's will present on their standards, NG will lead a discussion on the provision of a core set of 'SO' standards.
4324. RL then commented that it would be useful to have a presentation at GCDF representing the generator communities' views on the different requirement in Scotland and E&W, also flagging that the D Code needs to be considered if we are to look at wider review of the Standards. He stated that it is important that we get an outcome that is balanced between the effort required against the benefit the work will have.
4325. CMD confirmed that he is happy to get a representative to present on the reasons why a consolidated suite of documents would be useful. GE stated that it is important that generators, TOs and DNOs all equally get involved in the process. TKT then asked the group which standards do you harmonise? If you changed the Standards it could have an impact on existing generators also as their connections would be based on the historical design of the transmission system and hence int may not be possible to bring all of the standards into line

across all of the TOs immediately [NB Post-meeting note from RW; this is not the case unless a change was applied retrospectively which has its own process of cost benefit to follow]. JN said that, other than commenting on the technical requirements, RWE as a generator does not have much more to add towards removing regional differences and is looking at the licensees to provide some convergence. He added that it would be useful to add into the General Conditions a specification for a common way of presenting the standards (ToR).

4326. GE commented that coordination needs to be done between the generators to have a list of issues in order to have a fruitful discussion at the GCDF in April; a plan to resolve the issues would also be useful.

ACTION - tidy up the General Conditions.

ACTION - Generators to present at GCDF. Nomination required from CMD.

ACTION – review whether we can add a ToR into the General Conditions to detail the requirement for the RES documents (format, structure, content etc).

ACTION – review whether we could we have a common way of presenting the RES by changing the Connection Conditions.

6 Existing Grid Code Development Issues

UKPN KASM Issue.

4327. AJ and MW provided a presentation detailing an overview of the KASM project (please see published presentation pp16/24). JN noted that he was surprised there was actually a defect. The fact that the National Electricity Transmission System Study Network Data Files are released from 1 year ahead in OC2 in the Grid Code, surely the purpose of the data being released to DNOs is to enable them to plan their systems as it is difficult to understand what else the data would be used for in this timeframe. RW stated that while counter-intuitive the legal view (sought by both NG and UKPN) was that the existing Grid Code provisions did indeed restrict the use of 1 week ahead OC2 data to operational purposes. At year ahead a reduced quality of data is provided under OC2 for planning purposes.
4328. TKT stated that the DNOs get a reduced quantity of data in the modelled information that is provided currently under the Grid Code, a network model is provided for planning purposes but a full network model is provided for operational purposes. RW confirmed that the aim of raising the issue is to raise a housekeeping change in order to resolve the issue so is the panel happy to go straight to Industry Consultation? JN added that, if National Grid believes a change to OC2 is needed, it may also need to be referenced to the TSO Guidelines.
4329. JN asked, if UKPN have a significant financial incentive to have this change progressed, would an alternative of putting a bilateral agreement in place provide a solution?. RW stated that a change within the bilateral agreements would not help – UKPN already have the data they need but are not allowed to use it for planning purposes. MW responded that the change will help the whole industry not just UKPN's interests, it will also allow both the TO and DNO optimise assets. MQ asked GK and AC if this was the case. GK confirmed that the relationship between the DNO and TO is going to become more and more complex and interactive going forward.
4330. GE asked the panel if there is anyone who doesn't want this to happen. GP stated he is happy for it to go to Industry Consultation but it needs to be flagged in the document that the Grid Code has a confidentiality clause on data sharing and this needs to be brought out. SB confirmed she is happy to go ahead with the consultation as long as confidentiality is maintained.
4331. TKT confirmed that is important as more detailed models are required to push the assets further. NR asked if this change is implemented then should DNOs also be providing National Grid with more information to assist with managing the system. MW confirmed he has discussed this internally and it would probably be in the best interests of all parties involved to share information both ways, but the legal requirements or restrictions on doing so need to be

clarified. NR added that visibility of embedded generation would be useful from a BSC perspective as it would help parties with their trading and balancing.

4332. GS added it would be useful to flag the protection mechanisms available to ensure that all parties' information remain confidential as GP had stated. The next step is to get the Industry Consultation published and then discuss further development at a later stage on the sharing of information between the DNOs and National Grid.
4333. SB then stated that she is missing a clear understanding of the different models used and how detailed they are, and if there is a model spec available? GP clarified that it would be useful to compare the specification of what data is provided from 1 year ahead to within day.

7 Workgroups in Progress

a) GC0079: Frequency Changes during large disturbances and their effect on the total system (ROCOF).

4334. RJW presented the changes made to the GC0079 and GC0087 ToRs following on from the Workgroup recommendations provided to the January panel. He then asked where the current requirements on withstand for existing generation should sit? GS confirmed that RoCoF withstand has been moved from GC0079 to GC0087 and that extra text has been added into the ToR for GC0079 to ensure that the requirements on existing generators will still be discussed.

b) GC0087: Frequency Aspects of RfG.

4335. GS confirmed that GC0087 needs to be reported back into the DCRP as well as the GCRP, so an extra requirement was added to the ToR for the GC0087 to report back to the DCRP. The RoCoF withstand requirement was also added to the ToRs for GC0087 as per the conclusions of the GC0079 Workgroup and confirmation from the January Panel.
4336. AV thought following the previous meeting that rather than discussing the RoCoF withstand requirement on current generation we would detail the relevant SO operating limit in the SQSS. CMD echoed this, adding as it would add further complexity by looking to discuss the impact on current generators in GC0087 so where will this be captured? GS stated that it will be captured in the work to implement the Transmission System Operational Guideline (TSOG) in GB.
4337. GS added that there are parameters in the SQSS which detail the way that the system will operate. AV replied that there is no RoCoF limit in the SQSS. GS added that no other TSO has this information either, but AV stated that this needs to be addressed going forward. TKT added that it is going to come back to being a compromise; the more tolerant a generator is [of RoCoF events] the cheaper the system operational costs are, but it potentially will cost more for the generator.
4338. AF reiterated that there is little point having a RoCoF withstand value set for existing generation and a different RoCoF withstand value for new generation as system operation is common to both. AV wondered if there is a gap between GC0079 and GC0087 which is resulting in the workgroup's missing some analysis on RoCoF withstand. If neither workgroup are picking up RoCoF withstand limits on current generators is this something that should be done now, or does it need to wait until the conclusion of the RfG implementation, potentially as part of the TSOG?
4339. RW stated that the interaction with TSOG needs to be picked up in due course and GS commented that for existing plant a view will be taken when GC0087 decides its conclusions on RoCoF withstand limits for new generators as required under RfG. AV then queried if the work is being carried out the wrong way around; the workgroup should be asking for the operating limits first and then the withstand. RW stated that this is for the workgroup to address within their ToRs and report back to the Panel.

4340. GE also introduced that GC0035 (RoCoF phase 1 work for >5MW generators) came back with a £35million saving, so we need to ensure that when the GC0079 report comes out it is reconciled with GC0035 and does not double count any benefit identified.
4341. RL asked if the strike through of point (f) on the ToR for GC0079 should be removed in order to address the issues about where RoCoF withstand for current generators would sit. The Panel agreed that point (f) should be reinstated.
4342. SB then asked the Panel if there is any funding available for existing generators who aren't designed for this to look at RoCoF Withstand Capability. The reason for this is because any changes may have an effect on an existing generator who would not necessarily meet the new criteria for RoCoF withstand and also on the manufacturers who are producing the parts that require compliance; the impact needs to be considered.
4343. Concluding the discussion, AF added that he cannot see how you can apply retrospective withstand requirements. GS acknowledged that this needs to be carefully considered. SB reiterated that it needs to be clearly captured what the actual detriment would be to the system if an existing generator dropped off as a result of withstand. If it needs to be captured somewhere else that is fine, but it just needs to be captured somewhere.

ACTION – communicate a new membership request for GC0079 to ensure correct participants
ACTION - ensure that the development of TSOG is communicated back to the workgroup when available.

ACTION - amend the GC0087 ToR so that TSOG is referenced similarly to in GC0079.

ACTION - reinstate point (f) in the GC0079 ToRs as discussed.

ACTION – CMD to highlight the issue raised by SB (4343) at the next GC0079 WG meeting

8 Workgroup Reports

GC0048: RfG Implementation.

4344. RJW provided a presentation on the GB banding levels for RfG. The main aim of the presentation was to obtain GCRP approval of the workgroup findings in order for the workgroup consultation to be published. NR observed that the requirements of connection voltage will capture some DNO connected generators in a higher band required to be broadly Grid Code compliant. RJW responded that this was correct, but pointed out that generators falling into bands C-D and therefore expected to become BM participants would derive further revenue from this. RW added that as soon as RfG enters into force (likely to be in the coming weeks) any delay in getting banding agreed will impact on the lead time that will be given to manufacturers and developers in making necessary changes to equipment specifications.
4345. GE asked if the plan was to include any costing analysis carried out so far in the consultation. RW said that some incremental operational costs assuming bandings at different levels had already been presented and were to be included. A wider National Grid perspective will be presented (cost to SO), but in terms of the costs to generators, we would like to get an understanding of these from the consultation responses.
4346. GE asked if there is any understanding on harmonisation in Europe for the thresholds. RW stated that unfortunately while we know that other TSOs in Europe are considering lowering their thresholds none are yet in a position to share their banding requirements at this time – GB implementation is in the lead. NR queried what the implications are if we are out of step with the rest of Europe. RW confirmed that considering the requirements are aiming at ensuring harmonisation across Europe and confirmed that all TSOs throughout Europe are attempting to move their thresholds down.
4347. AF felt that the TSOG has thrown a big curve ball into the mix, with the result being that the banding thresholds may be out of sync. He felt it would be best to wait until the implementation of the majority of the codes has been completed, then revisit them. RW noted that AF had made the comment in the workgroup that it would be possible to make the requirements more stringent in the future reflecting further evidence or understanding and that

this would be better than relaxing them and leaving stranded assets. While implementation of RfG could not be delayed, RJW confirmed that revisiting the banding thresholds after 3 years was specifically provided for in RfG.

4348. In response to GE's comments on the CBA, CMD said it is hard to say we need to do a CBA when we have to meet the requirements regardless of any findings. RJW added that this is something that has been discussed with the Ofgem representative in the workgroup and that the workgroup have endeavoured to do the best they can. CMD added it is hard to have concrete costs when so many things still need to be implemented (frequency response, TSOG etc.).
4349. NR asked the Panel if BM participation has been thought about. RJW said that one of the benefits of the banding thresholds is that the banding levels are across GB uniformly and so this could be an opportunity to get more participants involved in the BM. This might be a topic to have at the GCDF in June. NR informed from a BSC perspective the BSC might need to flex depending how the banding is set, and the provision of those services etc.; the more forewarning the BSC can get the better in order to educate parties. NR asked RJW and RW to what extent does GCOO48 need the BSC to help with costing? It was confirmed at this time no help was required as fixed costs were available on the Elexon website (registration etc.).
4350. RW confirmed to the Panel the intention is to implement the requirements of RfG within the next 12 months to maximise the time to discuss BM participation etc. JN iterated that BM participation is extremely important and the impact will also include additional costs for NG for communications, IT etc.
4351. RJW reiterated to Panel members to respond to the consultation document asking for any further suggestions that could bolster the report. The Panel confirmed that they were happy for the consultation document to be published in its current form. RJW thanked the Panel and workgroup members for their help with formulating the document.

GC0077: Subsynchronous Resonance

4352. GS provided an update that the final version of the consultation document for GC0077 will be circulated to the Panel members on Friday 18th March for 2 weeks.

ACTION – June GCDF Agenda item on increased BM Participation following RfG.

9 Industry Consultations

GC0062: Fault Ride Through.

4353. GS Confirmed that 6 responses were received to the consultation with a couple of queries that had needed resolving. In summary the responses were positive and the intent is to draft a Report to the Authority proposing the changes as they stood in the consultation.

GC0075: Hybrid Static Compensators.

4354. GS confirmed that 6 responses were received including two that were confidential. The majority of the responses were positive and no changes or significant questions were posed so the Report to the Authority will be drafted proposing the changes as they stand. The report will include the consultation responses and any dialogue on these; the confidential responses will though not be included in the report but will be shared with Ofgem.
4355. GE asked what the intended submission date for the reports will be. GS confirmed the report will be available in mid-April.

10 Reports to the Authority

4356. None pending.

11 Progress Tracker

4357. MQ noted that the dates on the document are a little out of date.

ACTION - RJW to review and amend.

12 Pending Authority Decisions

GC0086: Open Governance.

4358. Submitted to the Authority on 15/03/2016.

13 Standing Items

a) European Network Codes

4359. No comments from the panel.

b) Joint European Stakeholder Group

4360. No comments from the panel.

c) Grid Code Development Forum

4361. No comments from the panel.

4362. Next Meeting on 14/04/2016

14 Impact of other Code Modifications or Developments

4363. No comments from panel

15 Any Other Business

a) NISM Discussion

4364. The Panel discussed the NISM warning and provided guidance.

4365. The guidance provided by the Panel was that the NISM discussion should be referred to the April GCDF meeting.

b) EBS

4366. CMD asked if there is a program to liaise with the users. Working for an owner of multiple control point he iterated that he is not aware of anyone who has been contacted for testing. ADC confirmed a transition plan for market participants was issued in 2015 but that communication has probably been between IS parties. ADC stated that this plan would be recirculated to the Panel.

4367. CMD asked under the current timeline if testing will aim to have been completed by May 2016 under the current plan. ADC confirmed yes, there are 3 dates when control points will be tested prior to go live looking at EDT and EDL. JN confirmed his understanding is that the technical experts nominated to the technical workgroup were doing the nuts and bolts of the

technical testing, but from a business perspective other parties need to be informed when a business process changes and this needs to be handled separately. JN requested that, given that BM Participants (Generators) are at risk of NG's IT systems failure, that any work being carried out that may affect systems be done at times of stable market conditions and also that advance warning be provided to Generators

4368. GE stated that it would be worth reminding people who NG are currently engaging with to communicate out to their wider company representatives.
4369. NR asked if the transition plan took into account the amount of work that needs to be done in order to test between the EBS system and BMRS in order for it to meet the November release. ADC said that this should be in the Feb release.

General Conditions

4370. Discussion carried out under RES agenda item

e) SOF 2016 – What would you like to see?

4371. GS asked if the panel members had any specific feedback on the 2015 document. MQ stated it is quite well written so please ensure that the next version is as easy to understand.
4372. RL asked if there was a plan to have any engagement sessions with industry. GS stated that a webinar is likely to happen in April/May. GE asked to bear in mind the section on nuclear as the press are likely to use it for their material.
4373. CMD asked if there would be greater consideration of the 14.5 GW of Interconnection planned by 2021 in the 2016 SOF. RJW confirmed that work on the SOF is ongoing and it is currently unclear what the SOF will contain.

f) Definition Cluster

4374. No comments from the Panel. Definition is redundant and will be removed in next housekeeping mod.

g) CACOP

4179. No comments from the panel.

ACTION - To circulate the transition plan for EBS

ACTION - ADC to return to the May Panel to provide an update on EBS

ACTION - An agenda item on the GCDF once internal thinking had been reconsidered

16 Next Meeting

4375. The next meeting is planned for 18th May 2016 at National Grid House, Warwick.