

## Minutes

<b>Meeting name</b>	GC0048: Joint GCRP/DCRP Workgroup on National Application of RfG
<b>Meeting number</b>	8
<b>Date of meeting</b>	17 February 2015
<b>Time</b>	10.00 – 15:30
<b>Location</b>	National Grid House, Warwick, CV34 6DA (Room E1)

## Attendees

<b>Name</b>	<b>Initials</b>	<b>Company</b>
Rob Wilson	RW	National Grid (Chair)
Sara-Lee Kenney	SLK	National Grid (Technical Secretary)
Alan Creighton	AC	Northern Powergrid
Alastair Frew	AF	Scottish Power
Amir Dahresobh	AD	Nordex
Antony Johnson	AJ	National Grid
Campbell McDonald	CMd	SSE
Celine Reddin	CR	National Grid
Chris Whitworth	CW	AMPS
Ian Taylor	IT	EDP Renewables
John Norbury	JN	RWE
Julian Wayne	JW	Ofgem
Mick Barlow	MB	S&C Electric Europe
Mike Kay	MKa	Electricity North West
Richard Woodward	RJW	National Grid
Sarah Carter	SC	PPA Energy
Steve Davies	SD	DECC
Zoltan Zavody	ZZ	Renewable UK
Steven Mockford	SM	UK Power Networks
Steve Lam (on behalf of Adam Simms)	SL	NGET
Ben Marshall	BM	NGET
Peter Bolitho	PB	Waters Wye Associates
Rupika Madhura	RM	Ofgem
David Spillett	DS	ENA
Joe Duddy	JD	RES

## Apologies

Andy Vaudin	AV	EDF Energy
Chris Allanson	CA	Northern Powergrid
Chris Marsland	CM	(on behalf of) CHPA & AMPS
Gareth Parker	GP	DONG
Garth Graham	GG	SSE
Guy Phillips	GP	EON
Jawad Al-Tayie	JAT	Cummins Generator Technologies
Julian Rudd	JR	DECC
Mick Chowns	MC	RWE
Mustafa Kayikci	MKy	TNEI
Peter Thomas	PT	Nordex
Philip Jenner	PJ	RWE
Richard Lowe	RL	SSE
Tony Headley	TH	BEAMA

## 1 Introductions/Apologies for Absence

RW

1. The Chair welcomed the Workgroup and apologies were noted.

## 2 Stakeholder Representation

RW

2. The Chair noted the Stakeholder Representation as a standing agenda item for this workgroup and noted the workgroup is open to all but may need to be limited to one representative from each organisation should the attendance numbers become too large to facilitate and manage room capacity.
3. The Chair mentioned that it would be useful for the Solar industry to be represented on the workgroup. NGET advised that it had been liaising with the Solar Trade Association. DS offered to liaise with his Solar contacts to seek representation at the workgroup.
4. MK mentioned the ENA session held by the DCRP for small parties on 30 Jan and that this had raised awareness. RM asked the workgroup if anyone knew of missing parties? The workgroup offered support by looking at existing contacts to identify who is missing.

## 3 Review of actions & approval of minutes

SLK

5. SLK ran through the Action Log and progress made to date.
6. The following actions were closed at this meeting: Action 36 'Banding Threshold Considerations', Action 37 'Maximum Available Frequency Response', Action 42 ' DECC/Ofgem Steering Group Organogram', Action 44 'Dates for future GC0048 Meetings', Action 45 'Meeting Date Clashes', Action 46 'Frequency Response Services Questions', Action 47 'Future Position on GB Frequency Response', Action 49 'Project Profiling', Action 51 'DNO banding data sources', Action 55 'National Parameter Comments', Action 58 'Emergency & Restoration Code update' and Action 59 'IEC62786 and TS50549',
7. The Action Log was approved by the workgroup and will be updated and circulated with the minutes of the meeting.
8. SLK highlighted that the previous meeting minutes had been updated with the changes received from John Norbury and Mike Kay.
9. The minutes of the previous meeting were approved by the workgroup noting the above comments and will be published in the 'workgroup' section of the Grid Code website<sup>1</sup>.

## 4 Progress Update

RM

10. RM advised a detailed update would be provided by DECC on 19 February at the DECC/Ofgem Stakeholder Meeting which follows the JESG. The minutes for this meeting would be produced and circulated by Jack Robinson of Ofgem. SLK will ensure these are passed on to the GC0048 workgroup for information.
11. RM advised that there is a new team at the Commission who are now continuing to draft the connection codes. The Cross-Border Committee Meeting on 4 Feb discussed each Member States' concerns with the latest RfG text. Member States were in agreement for an implementation period of 3 years rather than the 2 years proposed. RM added that several Member States had concerns in relation to voltage and frequency but overall there were no major areas for concern.

RM advised that the Commission have indicated RfG will be adopted in August 2015. SC enquired as to when the next RfG draft would be expected? RM advised that the Commission generally allowed a week for Member States to comment on the text but she noted that the Commission is working on all of the Connection Codes simultaneously. RM added that various Member States made the point that seeing something on DCC and HVDC before voting on RfG would be useful with the target for all of the Connection Codes being to be adopted by August 2015 (i.e. through positive voting at a CBC Meeting).

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<sup>1</sup> <http://www2.nationalgrid.com/UK/Industry-information/Electricity-codes/Grid-code/Modifications/GC0048/#>

- **Key Points**
  - **Engagement**
  - **GB Issues**
12. AJ recapped that after the last GC0048 workgroup meeting there was a new version of RfG released to Member States in which the maximum possible threshold values for Generator Banding changed for GB to the same as that of Continental Europe. AJ ran through the main issues identified with the latest version of RfG. He noted these principally related to the 'Glossary and Definitions', the change from a 3 year to 2 year implementation window and concern that the definition of Synchronous Power Generating Module was unclear. AJ advised these concerns and comments had been fed back to DECC and Ofgem at the GB Stakeholder Meeting held on the 29 January 2015.
  13. JW queried if the concerns AJ had outlined in relation to Fault Ride Through had been highlighted to ENTSO-E? AJ advised these concerns were flagged to ENTSO-E in December and took an action to chase with ENTSO-E. [post-meeting note for clarification – concerns once more fed back to ENTSO-E]
  14. AJ also advised following extensive discussions with DNOs, AMPS, DECC and Ofgem a proposed definition for 'maximum capacity' or 'Pmax' (which also relates to the definition of Synchronous Power Generating Module) had been put forward to the European Commission which RM confirmed had been passed on to ACER to resolve.

## 6 Developments in Frequency Response

SL

15. SL from Adam Sims' team provided a presentation on the Developments in Frequency Response and the importance of this for operation of the system to the Workgroup. SL discussed the rationale behind developing Frequency Response services and the link to the System Operability Framework (SOF).
16. SL highlighted the difference between Mandatory Frequency Response and Commercial Frequency response. 'Mandatory' Frequency Response generally relates to large generators who are obliged to provide the capability but define their own pricing for the service. Commercial Frequency Response is a tendered service which large generators can also participate in, whereby they can define their technical capabilities which may be above the minimum grid code requirements. He also advised that 'Commercial' Frequency Response can be provided by smaller generators e.g. those who are not obliged to provide it (but can offer it as a service).
17. SL highlighted how costs have increased in comparison to previous years. JD asked why costs are rising? SL advised this is due to insufficient Frequency Response currently available in the market. JD highlighted how the information detailed within the presentation only compared 2012/13 and 2013/14 and queried if there is a general trend showing increasing costs on a yearly basis? SL advised the figures show there is an upwards trend but there were no figures on projected spend on response. JW added that NG is incentivised to keep costs to a minimum.
18. SL highlighted that with the ongoing closures of thermal plant, system inertia is expected to continue to be reduced (as it is being replaced by non-synchronous plant) which is consequently resulting in higher rates of change of system frequency which in turn requires higher Rate of Change of Frequency (RoCoF) protection settings. SL advised that there is a move to look at how wind farms can assist in reducing this trend. JN questioned if this is the case, are NGET testing the market to see if they can procure a service for system inertia? AF also questioned why wind was not being utilised based on his previous findings discussed at the work group (i.e. available frequency response available from wind vs the amount utilised). SL advised that whilst wind generation has the capability and availability to provide frequency response, the price that many wind farms are offering to provide this service is prohibitively high, making it uneconomic. SL added National Grid needs to procure frequency response services at minimum cost. The frequency response available will also overstate the position as it will not allow for actual generating conditions.
19. AF queried slide 5 'Commercially Available Response 2013' why pump storage is not covered in the circled 'Commercially Available Response'. SL mentioned this is costed on the basis that pumped storage is currently used for other services other than for just frequency, for example fast

reserve. JW queried does Demand Side Services factor into this? SL advised that there were currently a few demand side providers in the market already and this was very much an area for future development.

20. SL also mentioned the steps to remove barriers to participation and the new electronic online platform which launches on the 17 February 2015. This is an - FFR E-tendering system which will be made available through a new portal called Ariba. SL added that FFR e-tendering should be much more efficient by submitting prices electronically.
21. SL highlighted the potential introduction of weekly tenders whereas FFR is currently run on a monthly basis. CMd queried if this process will go shorter than a weekly tender process? SL advised this was not expected due to the work and resource required from both market parties and National Grid.
22. Rapid Frequency response – further discussion is taking place in spring this year. ZZ advised that the GCRP are looking at this as there is low confidence in the commercial offering. SL advised that Commercial and Mandatory frequency response services run in parallel. SL advised that no one who has tendered into FFR has selected the rapid response option when entering the tender process, although this may have been due to the lack of a market signal that this would be required in the short term. However, this will change in the future.
23. SL summarised that the requirement for frequency response is increasing. The volume of commercially available response is decreasing and NGET are looking at multiple solutions to ensure the continued secure and economic operation of the network.
24. AF queried how commercially available frequency response can decrease when the Grid Code generally requires Large Power Stations (above 50MW) to provide 10% of Registered Capacity as response. SL advised that this is a cost issue. RW advised that this is mainly a market issue rather than a decrease in the volume of available response but also pointed out that the volume of smaller embedded generation from whom services are not available is increasing rapidly. JW queried why NG was only concentrating on managing the effects of reducing inertia and increasing infeed, and not investigating tackling these causes directly, for example through new inertia and infeed reduction commercial services.

## **7 System Operability Framework (SOF)**

**BM**

25. BM presented NGET's System Operability Framework (SOF), the first edition of which was published in September 2014. The SOF takes the Future Energy Scenarios (FES) produced by NGET following cross-industry and wider stakeholder consultation and explores the impact of these scenarios further as they relate to various areas of operator challenge.
26. All of the four 2014 FES scenarios 'Low Carbon', 'Gone Green', 'No Progression', and 'Slow Progression' are considered in the SOF, along with operational history as it informs future system issues. This data forms the scope of assessment which is conducted against the context of current Grid Code and SQSS conditions to identify various challenges going forwards and the range of responses to the challenges that may be possible, including operational, specification/design/code changes, and asset based approaches,. A final output within the SOF, is a timeline identifying when these issues would apply and as such the priority and the timeframe over which the responses to these challenges need to be delivered.
27. BM highlighted how the system is changing and the MVAr/MW ratio is decreasing which is being driven for example by the uptake of appliances such as low energy light bulbs and the increasing volumes of embedded generation, together with other network related effects- and how this impacts voltage regulation, transient overvoltage vulnerability and Quality of Supply over time.
28. BM advised from the studies carried out and based on the four FES scenarios, by 2025 all scenarios (with the exception of 'No Progression') demonstrated significant operational problems.
29. BM ran through examples of the FES scenarios 'Low Carbon', 'Gone Green', 'No Progression' and 'Slow Progression' with respect to system inertia. BM also discussed an example of the effect of Rate of Change of System Frequency (RoCoF) as system inertia declines and an example of the frequency containment challenge under low inertia conditions, together with the work currently engaged via the Enhanced Frequency Control Capability NIC project.

30. BM summarised the intention to release a 2015 update to the SOF to be achieved via industry consultation with regards to the initial engagement on scope, followed with further engagement on the assessment outcomes ahead of SOF 2015 publication, complementing the existing engagement forums used to update the industry across SOF 2014 production. BM also discussed the existing engagement forums for the SOF and how stakeholders can get involved. BM encouraged the workgroup to attend the 9 April pre-assessment industry workshop and also ran through the timeline for the development of the SOF this year.
31. BM discussed that one of the key priorities for the SOF for 2015 is the consideration that the SOF sets a system context for consideration when looking at the alignment of European Network Codes with GB codes. Therefore in context of this workgroup it is suggested to take into account where the system is going in the future to help direction of the RfG discussions.
32. AM asked if the SOF could indicate or define Frequency Response issues? BM advised the SOF will present the four FES scenarios so Frequency Response would be included within this analysis-however this would be in terms of identifying the changes to scales or volumes of requirement rather than costs associated, .
33. CMd advised BM described the situation well and the risk of an increasingly 'unpredictable system'. BM advised there are options for different approaches here but issues of secure system operation and Black Start all needed to be considered,
34. RW added the SOF is National Grid's view for the future. He advised that the consultation for the SOF is to gain better engagement and is not a formal consultation as we would have under say the Grid Code given that the SOF is not subject to any governance.

## 8 Parameter Setting Update

AJ

35. AJ discussed the National Parameters table; no further comments were received from the workgroup and therefore the existing work done will be fed into the project plan. This will include aligning the table to the latest version of RfG (as the current version is still based on the January 2014 version).

## 9 Project Plan Update

CR

36. The project plan will be presented at the March DECC/Ofgem Steering Group meeting.
37. CR recapped on the plan which has been discussed at previous workgroup meetings. RW suggested that the first priority of work would be Modification 1 (Mod 1) to ensure the structure and banding thresholds are determined before any other provisions are made.
38. JN asked if National Grid were looking at any other codes or parts of the Grid Code in relation to RfG application as so far the focus has been on the Connection Conditions. AJ advised that he believed the Operational Codes and Balancing Codes were covered under the other European Network Codes, but noted that a joined up approach would be required. RM added JESG would be the most appropriate vehicle to address outstanding issues and ensure consistency across the wider codes.
39. SC mentioned the mapping and definitions work carried out on the Distribution Code whilst AJ is looking at the Grid Code. RM advised that we need to think what is the impact on existing Users of those definitions and the impact of any definition change.
40. MK added RfG is only applicable to new Users but if we change definitions in general we need to think who will be affected.
41. JN added the industry needs to take the same approach across all ENCs. RW added two sets of definitions in principle aren't workable RM asked what the next level of detail would be on the timeline slide? RM mentioned that the project plan needs to also cover timelines for Ofgem/DECC actions on mapping, legislative changes etc. RM referred to the GC0048 workgroup Terms of Reference as the workgroups purpose is to cover the overall implementation of RfG and not just a section of it.

42. ZZ suggested for each Workstream the necessary modifications and associated article numbers need to be highlighted.

## 10 Risk Register

RJW

43. RJW ran through the Risks and the associated updates. The workgroup focussed on those issues marked as Red and Amber and to take this approach for future workgroup meetings. The workgroup suggested adding a Risk in relation to engagement to make sure all Stakeholders views are captured.
44. The workgroup agreed to focus on the 'Risks' tab noting the Issues tab was more of a 'points to note' as opposed to actual 'Issues'. RM asked for the inclusion of an additional column for the Risk rating after the proposed mitigation.

## 11 DECC/Ofgem Steering Group Reporting

RM/All

45. The workgroup discussed escalation or progress reporting to the DECC/Ofgem Steering group and agreed that the items to be put forward are summaries of the:
- i. Project Plan.
  - ii. Risk Register

## 12 Agree Actions

SLK

46. DS took an action to speak to contacts for solar experts and SME manufacturers' attendance at the GC0048 workgroup. RW advised he would draft an introductory note for DS to use with new contacts.
47. JW to look at the FIT Register to identify if we have any missing representatives for the GC0048 Workgroup.
48. DS to look to moving the October P2 meeting as this clashes with the RfG Workgroup meeting (Wednesday 28 October).
49. RJW took an action to look at incremental costs for generators to install the required communications facilities, and to produce a template to circulate to the workgroup to allow generators to compile their costs for compliance purposes.
50. RW and AJ to chase up ENTSO-E on their concern relating to the fault ride through parameters defined in Table 3.1 and 7.1.
51. NGET to look at agenda items for the next few meetings.
52. SC and AJ to look to bring a draft of the mapping of definitions carried out so far and focus on the definitions for RfG vs Dcode. This is required for the next workgroup meeting and when appropriate this detail will be added into the project plan.
53. AJ, CR and RW to look at and add to the details behind each Workstream detailed in the project plan..
54. RJW to update the Risk Register;
- i. New column for 'risk rating after proposed mitigation'
  - ii. Review 'Issues' tab and seek to change to 'points to note'.
  - iii. Add 'Stakeholder Engagement' risk to the Risk Register to make sure we are capturing all stakeholders.
55. RM and CR to liaise on the Project Plan – CR to develop and arrange TCON with RM.



56. SLK to pass on minutes for the DECC/Ofgem Stakeholder Meeting held on the 19 February.

## 13 AOB / Next Meeting

SLK

### AOB:

57. Attendee feedback welcomed via an online survey: <https://www.surveymonkey.com/s/C6GYV2Z>

### Next Meeting:

The next RfG Workgroup meeting will take place on **Thursday 19 March 2015 at Novotel Birmingham Airport**. Please also find attached below all future dates arranged for this workgroup for 2015:

**(calendar invites have been sent out for these dates, please contact Sara-Lee if you have not received them)**

- Tuesday 21 April
- Tuesday 19 May
- Tuesday 16 June
- Monday 20 July
- Tuesday 18 August
- Friday 25 September
- Wednesday 28 October
- Thursday 19 November
- Thursday 17 December