

Minutes

Meeting name	GC0048: Joint GCRP/DCRP Workgroup on National Application of RfG
Meeting number	9
Date of meeting	19 March 2015
Time	10.00 – 16:00
Location	Novotel Birmingham Airport (Opposite Main Terminal), Birmingham, B26 3QL

Attendees

Name	Initials	Company
Rob Wilson	RW	National Grid (Chair)
Sara-Lee Kenney	SLK	National Grid (Technical Secretary)
Alan Creighton	AC	Northern Powergrid
Aldous Everard	AE	Sheffield University – Solar Representative
Alex Fornal	AFo	Juwi Renewable Energies
Andy Vaudin	AV	EDF Energy
Antony Johnson	AJ	National Grid
Campbell McDonald	CMd	SSE
Chris Marsland	CM	(on behalf of) CHPA & AMPS
Chris Whitworth	CW	AMPS
Dan Boland	DB	Endurance Wind Power
David Spillett	DS	ENA
Deirdre Bell	DBe	Ofgem
James Hoare	JH	LHW Partnership
Joe Duddy	JD	RES
John Norbury	JN	RWE
Julian Wayne	JW	Ofgem
Kirsty McLaughlin	KM	Lark Energy
Leonardo Costa	LC	Ofgem
Mike Kay	MKa	Electricity North West
Peter Thomas	PT	Nordex
Peter Bolitho	PB	Waters Wye Associates
Richard Woodward	RJW	National Grid
Rupika Madhura	RM	Ofgem
Sarah Carter	SC	Ricardo-AEA
Steve Davies	SD	DECC
Steven Hanser	SH	Brit Wind
Steven Mockford	SM	UK Power Networks

Apologies

Alastair Frew	AF	Scottish Power
Amir Dahresobh	AD	Nordex
Celine Reddin	CR	National Grid
Chris Allanson	CA	Northern Powergrid
Gareth Parker	GP	DONG
Garth Graham	GG	SSE
Guy Phillips	GP	EON
Ian Taylor	IT	EDP Renewables
Jawad Al-Tayie	JAT	Cummins Generator Technologies
Julian Rudd	JR	DECC
Mick Barlow	MB	S&C Electric Europe
Mick Chowns	MC	RWE
Mustafa Kayikci	MKy	TNEI
Philip Jenner	PJ	RWE
Richard Lowe	RL	SSE
Tony Headley	TH	BEAMA
Zoltan Zavody	ZZ	Renewable UK

1 Introductions/Apologies for Absence

RW

1. The Chair welcomed the Workgroup and in a particular the attendance of the Solar Representatives from across the industry who had attended the meeting for the first time.
2. The Chair welcomed the attendance of all at the workgroup but noted the requirement for registration for each meeting to ensure we can effectively facilitate the meeting, arrange for an adequate sized room, and ensure we are not in breach of fire procedures and also for the comfort of those attending the meeting. To register attendance for future workgroup meetings, please email grid.code@nationalgrid.com.
3. The Chair also mentioned the new Grid Code stakeholder forum the - **Grid Code Development Forum (GCDF)** which has been established for the discussion of Grid Code technical issues. The forum has been set up for stakeholders based on their feedback that more engagement is required in relation to the Grid Code Technical issues. The first meeting is due to take place on **Monday 13 April 10-13:00 at the Holiday Inn, Leamington Spa**. A proposal paper was produced outlining the purpose of this forum which can be found on the [Grid Code Development Forum Webpage](#). Anyone wishing to attend this meeting and also wishing to suggest agenda items should email grid.code@nationalgrid.com to register.

2 Stakeholder Representation

RW

4. 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.
5. The Chair noted the successful inclusion of representatives from the Solar industry and DS also mentioned he is currently looking into extending this to manufacturers; this is currently work in progress.

3 Review of actions & approval of minutes

SLK

6. SLK ran through the Action Log and progress made to date.
7. The following actions were closed at this meeting: Action 38 'NGET System Operability Framework (SOF) Workgroup Presentation', Action 43 'RfG Project Plan for March Steering Group Meeting', Action 48 'Power Park Module and Power Generating Module Distinction under RfG', Action 52 'Solar Trade Workgroup Representation', Action 53 'Demand vs Generation profile', Action 54 'Project Plan Presentation', Action 56 'ECCAF Mapping', Action 58 'Solar Representation', Action 60 'P2 and RfG Meeting Clash', Action 61 'Incremental Costs for Generators', Action 63 'Agenda items', Action 65 'Risk Register Updates and Amendments', Action 66 'Project Plan TCON' and Action 67 'Circulate DECC/Ofgem Stakeholder Meeting Minutes'.
8. The Action Log was approved by the workgroup and will be updated and circulated with the minutes of the meeting.
9. SLK highlighted that the previous meeting minutes had been updated with the changes received from Julian Wayne, Rupika Madhura and Celine Reddin.
10. The minutes of the previous meeting were approved by the workgroup and will be published in the 'workgroup' section of the Grid Code website¹.

4 Progress Update

RM

11. **Progress on the European Grid Connection Codes.** RM provided an update on the position of the Grid Connection Codes (RfG, HVDC and DCC). The Commission has indicated their intention to provide Member States with visibility of all Grid Connection Codes prior to formal voting on the RfG Network Code. RM advised the Commission have still indicated that voting on the RfG

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

Network Code is still expected to take place in April 2015; however it is yet to be confirmed as to whether there will be formal or informal voting at the Cross Border Committee meeting. MK queried if the Commission's intention is for Member States to have sight of all three Grid Connection Codes prior to the RfG voting in April, or should voting not be in relation to all three Grid Connection Codes but pushed back to accommodate all three codes? RM advised the Commission's intention is to provide sight of the DCC and HVDC Grid Connection Codes to allow Member States to be informed prior to any voting on RfG. RM added the next Cross Boarder Committee meeting is due to take place on 28 April. She advised any versions of the Grid Connection Network Codes released to Member States would be followed by a stakeholder workshop held by DECC and Ofgem. RM also introduced her colleague Deirdre Bell (Ofgem) who will be leading on the DCC Network Code.

12. DS queried if there had been progress on the Implementation period for RfG? RM advised GBs concerns had been raised at the 4 February Cross Border Committee meeting, those concerns were also voiced by a number of other Member States. This is currently with the Commission for consideration.

AJ advised that he had noted an issue with some of the fault ride through parameters as it could restrict the ability of Member States to flexibly define the voltage against time curve. He advised that this issue had been raised with ENTSO-E but noted that it would not cause an issue within GB. He took an action to forward the presentation that had been sent to ENTSO-E on this issue.

13. **Project Plan for RfG Implementation, DECC/Ofgem Steering Group Feedback.** RM provided an update on the feedback received from the DECC / Ofgem Steering Group for the European Network Code Programme in GB to which the RfG Project Plan produced by this workgroup was presented. RM advised Ian Pashley (NGET) represented the GC0048 RfG Workgroup on behalf of RW. The RfG Implementation Project Plan was well received, and the Steering Group praised the stakeholder engagement work carried out. The Steering group discussed the potential volume of additional documents that may be produced as a part of aligning the RfG Network Code to the GB Framework and advised the focus should be on the minimum changes possible whilst ensuring consistency with the ENTSO-E Network Codes. The Steering Group agreed with the Workgroup's approach to wait for a more stable version of the RfG ahead of completing the re-mapping work that was completed as part of ECCAF for the RfG Network Code/GB Framework alignment process.

5 Links and engagement across the European Network Code Programme SD

14. Following discussions with AMPs members, CW had requested this agenda item for clarity to ensure consistency in requirements across Europe and the necessary interfaces within GB. SD talked through the overall process noting the recent merging of the Stakeholder forums into one group, the [Joint European Stakeholder Forum](#). SD mentioned the overarching principles of the DECC/Ofgem Steering Group for the ENC Programme, the Stakeholder engagement carried out through the JESG and the implementation of separate workgroups such as this one (GC0048). It was noted that a number of Workgroups have been established where there are stable versions of the network codes such that application and implementation within GB can be considered.
15. The workgroup discussed how this extends into Europe. RM advised that at a European level (using RfG as an example) ENTSO-E and ACER will lead on the stakeholder engagement although she noted that the overall process is currently being defined. CM advised that this may be too late for RfG and both CM and CW raised concerns that this should be established immediately. RM suggested for CM to formally write to RW (as ENTSO-E RfG attendee) and RM (As Ofgem and ACER attendee) outlining these concerns and the requirement for this to begin immediately. RM/RW will provide feedback to their respective European colleagues.
16. CMd enquired as to how the interfaces between this workgroup and the JESG work. He also enquired as to what mechanisms were in place to prevent issues from being missed? RM and SLK noted that the JESG is an information sharing forum for stakeholders only and that it is not a decision making body. In the past where there have been significant developments from the GC0048 workgroup, this has been taken to the JESG to share with the wider stakeholder community and it is anticipated that this approach would also be taken in the future. The overall role of the DECC/Ofgem Steering Group is to highlight any issues or concerns and potential solutions. Each forum/meeting is attended by Ofgem, DECC and NGET.

17. SC, of Ricardo is working on behalf of the DNOs and presented the work carried out in relation to the mapping of the RfG Network Code to the Distribution Code (Dcode). SC confirmed she had also liaised with AJ in relation to the Grid Code mapping and areas which are common to both codes. SC's presentation covered three key areas;
- Proposals for the incorporation of the EU Network Code RfG into the GB Distribution Documents.
 - Document (i) drafting (micro generators).
 - Proposals for terminology.
18. SC advised the work completed builds on the ECCAF mapping carried out and also the feedback sought to date from previous versions of the Dcode mapping which starts from Type A upwards. SC highlighted that in addition to what is currently in place for the Dcode, mapping to the RfG requirements would see the introduction of three additional documents. RM referred back to the previous discussion re-stating the need to adopt minimum document changes and suggested this proposal is considered widely. She advised that the documents would need to be subject to a Legal review but equally that the structure and format would need to be presented to the DCRP/ GCRP, JESG and the Ofgem / DECC steering group for approval prior to detailed drafting. SC advised that the material under discussion had been presented to a workshop of DCRP stakeholders on 30 January at which Ofgem representatives were in attendance. RM added that the same approval approach should be taken for the Grid Code. SC and RM suggested the best approach would be to discuss the proposal at today's meeting, gather workgroup feedback and then take this to the relevant Code panels before submission to JESG and the DECC / Ofgem Steering Group.
19. SC ran through the existing GB documents that are likely to require changes as a result of RfG. These included the Grid Code, the CUSC, the BSC, the STC, the SQSS, the Distribution Code and Engineering Recommendations (G59/3 and G83/2, with potential for others referenced in the Dcode in the future). SC also highlighted the challenges associated with mapping the RfG to the Dcode for example, additional or conflicting requirements, definitions and overlaps. In particular, for the G59 overlap, JW asked for clarity as to whether this was an intentional overlap or a defect? SC confirmed this is an intentional historical overlap a not a defect. Following consideration of the effect of the RfG and other EU Network codes it was proposed to put all the requirements in user-friendly documents, remove any overlap and minimise smaller users having recourse to the D Code. CMd asked if G83 and G59 are under the governance of the DCode? SC and MK confirmed this is correct.
20. JD asked how extensive has the review been in relation to the contents of the RfG Network Code for example where RfG references 'shall' and 'may'? SC advised this has been covered in the work undertaken in the mapping, noting that the work carried out by AJ for the Grid Code also covers this.
21. SC then ran through four proposed options (Options A, B, C and D) and the advantages and disadvantages of each of them from a GB implementation perspective.
22. SC advised the preferred approach to take was Option C 'Create a number of Planning & Connection documents within the Distribution Code and Grid Code which would include a set of user accessible documents for small generators and one document for Type D, distribution and Grid connected User's. This would result in a suite of GB documents based on generator size and configuration whilst also taking in to account the location and type of connections. It was noted that once RfG becomes law and is mapped across to the GB framework, the Dcode will then point to the new documents. SC also noted the approach to the language used in drafting these documents will be aimed at the relevant users, e.g. domestic house holders noting this is a very different audience to that of the Grid Code where there is a more technical background.
23. SC ran through the detail of one of the new suggested documents 'Document (i)' '*Connection of domestic-scale, type tested generation to the low voltage distribution network*' which is targeted at single premises where the total connected generation $\leq 16A/ph$ (i.e. typically Householders).
24. SC discussed the 'Document (i)', approach to drafting and example text which was marked up to include text from G83, G59, EU documents referenced by RfG and CENELEC standards . SC

highlighted potential areas for revision such as the Type Testing Appendices as the requirements for Type A were not previously required.

25. SC highlighted the use of both DNO and DSO terminology; Europe frequently use the term DSO whilst the term DNO is used in GB. It was noted this issue will require further discussion. 'In GB a DNO is specifically the person or legal entity named in Part 1 of the Distribution Licence and any permitted legal assigns or successors in title of the named party. DSO is a term widely used in Europe (and LDSO used in DCUSA) even though many European network companies are not presently making significant use of active network management and are not true system operators.' RM advised this will require further discussion and this should be looked at by a legal representative for guidance.
26. The workgroup agreed with the approach to the Dcode mapping presented by SC noting that the areas in relation to the Grid Code would need further consideration.
27. Next steps are for SLK to circulate to the workgroup the updated presentation and Document (i) and a request all comments to be emailed to SC sarah.carter@ricardo.com by 14 April 2015. It was suggested for SC to then present the proposal to stakeholders at the JESG on 28 April for broader views, and then for wider circulation to the Code Panels (GCRP and DCRP) and then onto the DECC/Ofgem Steering Group.

7 RfG Banding

RJW

28. RJW presented on the draft RfG Banding Consultation paper produced by NGET. It outlines the NGET proposed position on the MW x4 Banding Thresholds to apply the requirements for RfG.
29. RJW explained that NGET's previous workgroup presentations on banding formed the basis of the draft report as it stands. He highlighted that the report was a draft, which very much welcomes additional perspectives from workgroup members, including alternatives to the NGET banding levels. He sought support from the workgroup in progressing the banding issue, suggesting that progress had started to stall, or energies were focused on dismissing NGET's position rather than workgroup members working on an alternative. RJW reminded the workgroup that time was currently on their side for agreeing the banding thresholds, but that this could change if the code is voted on and enters into force swiftly.
30. JW added that the workgroup are at the stage in the process where either a position is agreed or an alternative put forward in order to take forward one agreed GB position and business case to Europe. He reminded the workgroup that a GB CBA was required for any banding proposal, including adopting the 'default' positions draft into the code.
31. [Page 9] JN stated that commercial factors cannot be excluded from the scope of the cost-benefit analysis for banding threshold proposals and should consider both the capex and opex costs. They are a vital driver for participation and should be analysed, even if it is quite difficult in some cases to quantify (particularly possible returns in future). JN suggested that, given that utilisation of Band C capability would be dependent on National Grid establishing the necessary contracts, metering, IT and communications systems with providers, it would be helpful for National Grid to set out its plans to achieve this in the Consultation Paper.
32. RJW acknowledged that path to market was important, and explained focus of paper was to discuss technical capability as RfG is a technical code. PB stated that the economics of participation were critical when considering investments for new plant. If a long-term revenue stream cannot be guaranteed from ancillary services, then it makes the case for investing in the capability very difficult for developers to justify. It was agreed that commercial factors should be incorporated in the workgroup CBA.
33. To assist with understanding the economics of market participation for mandatory Frequency Response (Type C-D), RJW suggested the workgroup consider the as-is Grid Code compliant provision as the template. This means negotiation of a Mandatory Services Agreement with NGET; compliance testing, provision of Control Point and 24/7 site monitoring, and submission of Physical Notification and Dynamic Parameter data to NGET. A template to help compile these costs (discussed earlier and circulated to a few of the workgroup) would be provided to assist the costs gathering action. CM queried whether this included BSC participation; the workgroup agreed that it wasn't essential, particularly as BSC accession is a Generation Licence requirement. It is not

mandatory for Small-Medium generators. RJW suggested that costs for participating could be included if necessary, though BSC costs (fees etc.) are not particularly high.

34. KM highlighted concerns in relation to Solar plant which is not currently required to provide frequency response. She advised that should this be a requirement, it will be at the detriment to the Solar industry. RJW invited KM to include potential costs and impacts in the Banding Thresholds consultation and took an action to send the necessary template onto KM to populate.
35. RJW asked for comments on the proposals. The workgroup discussed the use of wind in relation to frequency response together with the figures and information discussed by AF at a previous workgroup meeting. LC advised that NGET have a licence requirement to operate a safe, secure and economical system which includes efficient use of services to balance the system. It was noted that this may result in NGET not always being in the position to use Wind as a part of this. LC added this should not be an opinion based on what has been used in the past but what can be used in the future based on the most economical solution
36. Next Steps are for a final view to be established on the Generator costs, including those of Solar plant. These views would need to be ready for the April RfG Workgroup meeting. This will also include Future Energy Scenarios information and maximum / minimum demand information. The workgroup agreed to feedback comments on the Banding proposal to RJW.

.8 Project Plan Update

AJ

37. AJ presented an update on the Project Plan on behalf of CR and the progress made to date on the Project Plan. He noted that CR had been in contact with Ofgem since the last meeting to include additional details within the project plan. AJ noted this is subject to change based on banding outcomes but also the need to reflect the Governance process where approval needs to be sought from the Code Panels, JESG and DECC/Ofgem steering group.
38. AJ asked Ofgem if the timescales detailed in the project plan of 25 days is reasonable for Ofgem to review a Modification? JW confirmed this is correctly represented in the Project Plan. RM advised she will liaise with CR as to where the legal advice required is captured in the Project Plan.

9 Risk Register

RJW

39. RJW ran through the red Risks and the associated updates. The risk register has been updated following February's GC0048 feedback. There are no items requiring escalation to the Ofgem/DECC Steering Group. The Risk Register will be circulated to the workgroup.

10 DECC/Ofgem Steering Group Reporting

RM/All

40. 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. Implementation groups for RfG, DCC, and HVDC.
Consideration and guidance on how to proceed with the implementation of the above codes and associated groups, resource availability and best approach to take.

11 Agree Actions

SLK

Updates under existing actions

41. See Action Log for Meeting 9.
42. AJ to forward ENTSO-E Fault Ride Through presentation to Workgroup members.

New Actions (also included in the Action log for Meeting 9)

43. **Dcode/RfG Mapping;**
 - i. Workgroup to provide comments on the Document (i) to sarah.carter@ricardo.com by Tuesday 14 April.

- ii. SC to discuss proposed approach to Dcode/RfG Mapping at JESG on 28 April.
- iii. Dcode/RfG Mapping to be approved by GCRP and DCRP.
- iv. Dcode/RfG Mapping to be sent to the DECC/Ofgem Steering Group for approval.
- v. Ofgem to look into legal requirements in relation to DSO/DNO references presence in RfG and how to take this forward with RfG mapping (as referred to in SC Presentation).

44. **RfG Banding Thresholds and Data Collection;**

- i. Finalise Generators Costs – CM, CW, JAT, ZZ, JD, CMd, KM
 - ii. Workgroup to provide comments to RJW on Banding Thresholds Consultation by Tuesday 14 April.
 - iii. RJW to send Solar template for costs to KM. KM to compile costs and return to RJW.
 - iv. RJW to include FES information, peak and minimum demand for a year, required reserve and response and how this changes over time and consider possible benefits to NGET's proposal on banding (further than additional capability) in Banding Threshold analysis.
45. RM to discuss with CR legal requirements and how this is referenced in the RfG project plan.
46. RW to write to the JESG chair for advice as to the approach to be adopted for implementing the other connection codes simultaneously. This issue is also to be added to the DECC/Ofgem Steering Group for progression as this is the usual route for such queries.

12 AOB / Next Meeting

SLK

AOB:

47. **Attendee feedback welcomed via an online survey:**
<https://www.surveymonkey.com/s/GTJZZLW>

Next Meeting:

The next RfG Workgroup meeting will take place on **Tuesday 21 April** at **National Grid House, Warwick**. 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 19 May
- Tuesday 16 June
- Monday 20 July
- Tuesday 18 August
- Friday 25 September
- Wednesday 28 October
- Thursday 19 November
- Thursday 17 December