

# Summary of Meeting and Actions

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Meeting Name	Frequency Response Working Group
Meeting No.	1
Date of Meeting	Wednesday, 22 <sup>nd</sup> October 2008
Time	10:00am – 2:00pm
Venue	Conference Room 9, National Grid House, Warwick

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This note outlines the key action points from the first meeting of the Frequency Response Working Group.

## 1) Apologies for Absence

Apologies were received from Mark Baker (Scottish Power), Katy Jackson (Drax), Dan Jerwood (GDF Suez), Bridget Morgan (Ofgem) and Mike Till (Scottish and Southern Electricity).

## 2) Frequency Response – Overview of Existing Obligations

National Grid provided an overview of the existing obligations regarding Frequency Response which included examples of frequency deviations.

The Working Group agreed that it would be useful if a reference document was available which outlined all existing technical frequency response obligations (statutory, licence, code and operational).

**Action: National Grid**

The Working Group noted that the minimum technical requirements were specified in the Grid Code; with the actual test validated plant performance recorded in the Mandatory Service Agreements in the form of frequency response matrix tables. Given that the complex generator response performance over its entire operating range is covered by matrix tables, it is inevitable that assumptions are adopted and some of these are reflected in the relevant clauses and figures in the Grid Code. Clarification of these assumptions may help to align the understanding of both requirements.

## 3) Working Group Discussions

The Working Group discussed and agreed a methodology by which the review of Frequency Response requirements (both commercial and technical) could be undertaken.

The Working Group noted that any findings/recommendations would be based on results from system studies analysis. The system studies would be assessed against a number of scenarios which would consider the following factors:

### i. Generation Mix – how much wind, nuclear etc?

It was noted that National Grid has previously published future generation scenarios which could be utilised in the system study analysis. The publication outlined two scenarios i) 'Gone Green' and ii) 'Business As Usual'. The Working Group noted that there was a third scenario which was in between the 'Gone Green' and 'Business As Usual'.

The three scenarios along with the scenario being utilised in GSR007 (Review of Infeed Loss Limits) would be circulated to all Working Group members for review and approval as suitable for analysis by the group.

**Action: National Grid**

### ii. Expected Performance of Generation

It was agreed that the Working Group representatives were in the best position to provide the expected performance of the new generating plant e.g. wind, nuclear, supercritical coal.

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It was noted that this information may be confidential and as such would have to be desensitised prior to circulation to the Working Group.

National Grid would provide a generic proforma outlining the information required. The proforma would be circulated to Working Group members for completion.

**Action: National Grid and Working Group Representatives**

It was noted that agreement on the expected performance of generation was key in ensuring credible system study results.

iii. Demand Response Assumptions

It was agreed that National Grid would develop demand response assumptions for the system studies which would be circulated to the Working Group for review and approval.

**Action: National Grid**

iv. Demand Levels

It was agreed that National Grid would develop demand level assumptions for the system studies which would be circulated to the Working Group for review and approval.

**Action: National Grid**

The scenarios would be assessed against a system model which would be set up to represent a dynamic system containing:

- One demand block
- A separate equivalent generator for each type of generator and response
- A single machine to be tripped

The results from the system studies would assist the Working Group in:

- Identifying problem areas e.g. security and quality of supply standards cannot be maintained, impact on reliable operation of Rate of Change of Frequency (ROCOF) relays etc.
- Investigate corrective measures if necessary e.g. review and improve generation performance, adjust generation mix
- Establish whether commercial mechanisms are impacted and whether they need modification
- Cost the alternatives

Depending on receiving the necessary information from Working Group members (regarding expected generation performance) and agreement being reached on the study scenarios and other study assumption, the initial results from the studies would be available in late January /early February 2009.

The Working Group agreed that all the options would have to be monetarily assessed (inclusive of generator, GB Transmission System and environmental costs) and that it would benefit if this analysis could be completed by a sub-working group rather than it just being the responsibility of National Grid.

The Working Group agreed that it may be useful to review other work which has been completed in this area e.g. provision of reserve (to support wind generation) by either part-loaded plant (CCGTs, Coal) or (OCGTs) or the mix of both etc. The associated reports would be circulated to the Working Group for reference.

**Action: RR, DS and National Grid**

## 4) Working Group Terms of Reference and Governance Arrangements

The Working Group noted that they were tasked with examining the appropriateness of the existing Grid Code Frequency Response requirements and associated commercial mechanism given the anticipated generation technology mix in 2020.

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The Working Group provided comments on the draft terms of reference which would be amended accordingly and circulated to group members for approval prior to their resubmission to GCRP.

**Action: National Grid**

It was agreed that any Working Group recommendation had to ensure security of supply. The review was to encapsulate the frequency response capabilities of all generation including conventional plant, the next generation of nuclear and CCGTs (IGCC), wind and supercritical coal.

The Working Group was to examine/consider the environmental benefits of any proposed solution. It was noted that generic guidelines for assessing the environmental impact of proposed code changes are being developed by a cross code standing group. The guidelines would be circulated to the Working Group after they had received approval from the GCRP.

It was noted that the Working Group (Grid Code and BSSG (Balancing Services Standing Group - CUSC)) representatives) would function under the Grid Code governance framework which allows greater flexibility, and that this is important given the complexities of the issues which had to be considered/reviewed. The terms of reference would include an overview of the dual governance process.

**Action: National Grid**

The Working Group agreed on the revised completion date for Working Group discussions. The Working Group would complete their deliberations by no later than November 2009. The date was subject to review and may be amended i.e. brought forward, if the discussions were been progressed in a timely manner.

The Working Group noted that any solutions would have to be assessed against the Grid Code and CUSC applicable objectives and that it was important that any recommendation would not inadvertently introduce undue discrimination amongst different categories of generation.

## 5) Code/Standards Interaction

The Working Group noted that the GB Security and Quality of Supply Standard (GB SQSS) Review Group was currently examining the infrequency and normal infeed loss limits (maximum loss against which the GB Transmission System has to be secured against)<sup>1</sup>.

It was noted that this review and the more general fundamental GB SQSS review may impact the Frequency Response Working Group. The Working Group agreed that it was important that both groups were kept informed of each others' findings and recommendations.

**Action: National Grid**

## 6) Next Meeting

- It was agreed that the next meeting of the Working Group would be scheduled for late January/early February 2009. The date, time and location were to be confirmed in due course.

**Action: National Grid**

- Future meeting dates for the rest of 2009 would be pencilled in and circulated to the Working Group.

**Action: National Grid**

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<sup>1</sup> GSR007 (Review of Infeed Loss Limits):  
<https://www.nationalgrid.com/uk/Electricity/Codes/qbsqsscode/workinggroups/InfeedLoss/>

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## Appendix 1 – Working Group Attendance

### Members Present:

Lilian Macleod	LM	Working Group Chairperson
Malcolm Arthur	MA	National Grid
Stephen Curtis	SC	National Grid
Mark Perry	MP	National Grid
William Hung	WH	National Grid
Mike Chowans	MC	RWE
Craig Howarth	CR	Scottish Power Renewables
Claire Maxim	CM	E.ON
John Norbury	JN	RWE
Chris Proudfoot	CP	Centrica
Rob Rome	RR	British Energy
David Scott	DS	EDF Energy
Raoul Thulin	RT	RWE
Lee Wood	LW	GDF Suez

### Apologies:

Mark Baker	MB	Scottish Power
Katy Jackson	KJ	Drax
Dan Jerwood	DJ	Gaz de Suez
Bridget Morgan	BM	Ofgem
Mike Till	MT	Scottish and Southern Electricity