

Summary of Meeting and Actions

Meeting Name	Frequency Response Working Group
Meeting No.	4
Date of Meeting	Monday, 3 rd July 2009
Time	10:00am – 2:00pm
Venue	Conference Room 8, National Grid House, Warwick

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

1) Apologies for Absence

Apologies were received from Raoul Thulin (RWE), Rob Rome (British Energy), John Welsh (Scottish Power), Jonathan Ayteo (GDF Suez), Dan Jerwood (GDF Suez), Claire Maxim (E.ON) and Ian Foy (Drax Power).

2) Minutes from Previous Meeting

The draft minutes of the Grid Code/BSSG Frequency Response Working Group meeting held on 30th March 2009 were approved and are accessible from the National Grid Code Website.

3) Review of Actions from previous meetings

The Working Group discussed whether the effect of diversity of wind has an effect on the SQSS model. CM to investigate whether wind pattern data can be distributed amongst working group – ongoing.

Action: CM

4) Working Group Discussions

It was agreed that the Terms of Reference should be updated to make specific mention of offshore transmission connected generation.

Action: TI

The Working Group reviewed the progress made to date.

It was agreed that although National Grid had presented four scenarios each representing a potential future generation mix and associated transmission system, that one scenario in particular had been focused upon (namely, the Gone Green scenario). National Grid was asked whether this reflected their option that this is the most probable of the scenarios and whether a ranking of the likelihood of each would be useful. National Grid stated that this did not specifically relate to probability. A member suggested that the two most likely scenarios should be identified and a cost of Frequency Response provision should be calculated against both of them.

National Grid explained that in order to find the economic and efficient balance between generators providing Frequency Response against the incremental cost for system operation relating to instantaneous losses, both sides of the equation must be determined. That is why representatives from generators are being asked to provide costing data for provision of frequency response by existing and future generating plant. Working Group members agreed to provide costing data for a number of new generating technologies:

- Onshore Wind
- Offshore Wind
- Super Critical Coal
 - With CCS
 - Without CCS
- CCGT

Summary of Meeting and Actions

- Nuclear

Action: Generation Reps

High Level Options

TI provided a summary of five high level models as discussed during previous Working Group meetings:

1. Minimum provision per unit
 - Sub-option (b) – provision could be contracted from others
 - (c) – ‘Frequency Capability Mode’
2. Minimum provision per group of gen units/ portfolio
3. Differing requirements for various generation technology
4. System Operating supplies balancing response
5. Frequency Response market established

It was stated that if, as under option 2, response was provided for an entire portfolio it would be difficult to track which units provided what and therefore availability testing would be required. The Working Group also stated that demand users could partake in such models and therefore that this might be a sixth option.

TI agreed to add the demand model to the summary list and circulate to the working members for comments.

Action: TI

Costing Methodologies

MA presented a spreadsheet that had been developed to estimate the system operation cost for frequency response provision. The costing model considered the cost of response with full compliance for all generation and the cost of providing response if certain types of generation could not meet the current obligations.

The two cost groups in the model are: the cost for constraining off non-compliant generation wind (based on the cost of Renewable Obligation Certificates (ROCs)); and the cost of providing frequency response. The group suggested that the cost of wind should be also be based on risk and not just the cost of ROC, i.e. £60/MWh + cost of risk therefore reducing the price of wind and increasing costs.

The question was raised of how much the model takes into account the cost of the variability of wind.

MA agreed to circulate the costing spreadsheet to the Working Group to be reviewed at the next meeting.

Action: MA

JE explained that the costing spreadsheet produced by David Scott, is not going to be readily interpretable and therefore the Working Group agreed that it would not be taken further forward at this point and would be superseded by the new model produced by National Grid.

A Potential Frequency Response Market Strawman

A presentation was given by MA outlining a potential strawman for the establishment of a market for Frequency Response for discussion. The following factors were broadly considered:

- Market Aims
- SO Requirements
- Potential Market

The presentation suggested that a Frequency Response market would provide additional options for the provision of FR that should reduce overall costs. This will also allow additional entrants to the market, such as demand side or perhaps even sole providers of response (e.g. technologies such as batteries or flywheels).

Summary of Meeting and Actions

MA explained that each generator would have to ensure that it was providing, or had contracted for, sufficient frequency response for its real time output. This would be communicated to the System Operator via a IS system, similar as occurs in the BM.

The following discussion points were raised:

- At generation connection how does National Grid determine how its FR is going to be provided
- How would the provision and location of FR provision be identified
- FR imbalance
- For a generator to supply its own response and for another unit it would need to be able to provide very high levels (20%?)
- What is the interaction between the power market and frequency response market
- Is there a transfer between the two markets
- How would the testing of response capability be tested, before a system event.
- Is this a barrier to entry for smaller/ non-portfolio players
- What is at the resolution for provision? (half hourly blocks?)
- How does this model take into account the inverse relationship with system demand? In other words when demand is lowest, more FR is required and vice versa?

Working Group members were invited to develop and present alternative FR straw men models for discuss at future meetings.

Action: All

MA to circulate the slide pack to the Working Group.

Action: MA

5) Next Meeting

It was agreed that the next meeting of the Working Group would be scheduled for 1st September 2009, commencing at 10am at National Grid House, Gallows Hill, Warwick.

Summary of Meeting and Actions

Appendix 1 – Working Group Attendance

Members Present:

Tom Ireland	TI	Working Group Chairperson
Kabir Ali	KA	Technical Secretary
Malcolm Arthur	MA	National Grid
Stephen Curtis	SC	National Grid
Mark Perry	MP	National Grid
William Hung	WH	National Grid
Mark Baker	MB	Scottish Power
Chris Hastings	CH	Scottish and Southern Electricity
Damian McCool	DM	Scottish Power Renewables
John Norbury	JN	RWE
Chris Proudfoot	CP	Centrica
James Evans	JE	British Energy
Bridget Morgan	BM	Ofgem
Mike Chowns	MC	RWE NPower
Bob Nicholls	BN	E.ON

Apologies:

Raoul Thulin	RT	RWE
Jonathan Atyeo	JA	GDF Suez
Ian Foy	IF	Drax Power
Rob Rome	RR	British Energy
John Welsh	JW	Scottish Power (DNO Representative)
Claire Maxim	CM	E.ON
Dan Jerwood	DJ	GDF Suez