

BSSG / CAP169 Notes & Actions

12 March 2009

1. Attendees:

Malcolm Arthur	MA	Chair
Andy Walden	AW	National Grid
Carole Hook	CH	National Grid
Cambell McDonald	CM	SSE
Claire Maxim	CM	EoN
Claver Chitambo	CC	RES
John Morris	JM	BE
Katharine Clench	KC	National Grid
Raoul Thulin	RT	RWE

2. Reactive

2.1 CAP169

CAP169 was raised by National Grid in February. The CUSC panel requested that the BSSG act as a working group to discuss the impact and develop any alternative proposals. Given the consequential Grid Code change it was agreed that a joint working group would be established so both the required Grid Code and CUSC proposals could be developed.

The Amendment Proposal contains 3 parts:

Part 1 - Provision of Reactive Power from Power Park Modules. This looks to amend various sections of CUSC to accommodate the provision of Reactive Power from Power Park Modules.

Part 2 – Looks to extend the current obligation on National Grid to offer reactive power terms to all large generators, upon request from a large power station with a reactive capability below 15Mvars.

Part 3 - Recognition of Distribution Network Imposed Restriction on Reactive Power. The Proposed Amendment seeks to facilitate partial reactive payment to those embedded generators that have a DNO connection condition that prevents instruction by National Grid to 0MVar.

Prior to the meeting, National Grid had circulated the materiality, legal drafting and draft Terms of Reference (ToR).

CAP169 Draft ToR

Membership – the membership of the group needs to be included in the ToR. All industry representatives present will be included as members in the ToR. There may be other members added at the next meeting. CH highlighted that to be able to vote on any proposals, members need to attend at least 50% of the working group meetings.

ToR comments – the ToR outline that the group is a joint CUSC / Grid Code working group. MA commented that the responsibilities for the Grid Code tie up may need to be further clarified within the ToR to determine what needs to be delivered for both CUSC and Grid code Panels. The wording regarding the scope of work (paragraph 7) needs to be tightened up to explain what is covered in the proposal.

ACTION – Comment on draft ToR (All)
ACTION – Update the ToR and circulate (National Grid)

Part 1 – Power park modules

Due to the method of connection to the grid system, and asset ownership arrangements, the location of metering and the commercial boundary may differ on a site by site basis.

To account for all types on connection configurations, the proposal looks to define the reactive commercial boundary in the relevant Power Park Module's MSA.

In addition, particularly for wind farms in Scotland, National Grid will use the 'Methodology for the Aggregation of the Reactive Power Metering' to calculate the MVar level at the Commercial Boundary as defined by the relevant MSA.

Sections of the CUSC associated with reactive power provision will need to be updated to implement the proposal.

The group discussed the proposal. The following main points were raised:

- Is the change to commercial and technical boundaries only associated with reactive power provision?
- Is there an overlap with the provision of reactive power from embedded generation?
- Do the reactive meters that are not located on the commercial boundary have internal compensation to determine the reactive power at the commercial boundary?
- What is the governance for changing the 'Methodology for the Aggregation of the Reactive Power Metering' document?

ACTION – Comment on Amendment proposal 1 (All)
ACTION – Consider the questions raised above (National Grid)

Part 2 – Looks to extend the current obligation on National Grid to offer reactive power terms to all large generators upon request from large power stations with a reactive capability below 15Mvars.

The group discussed the proposal. The following main point was raised:

- Will the provision of an MSA for a generator that wants to provide reactive power oblige that generator to provide frequency response (for a generator that is not currently obliged to provide response)?
 - KC stated that the generator would not be obliged to provide response services.

AGREEMENT – the group agreed that this section of the modification should proceed as is.

Part 3 - Recognition of Distribution Network Imposed Restriction on Reactive Power.

The modification proposal was raised as National Grid considers that it is inappropriate for generators to receive full payment for reactive power supplied in circumstances where there is restricted operation where a generator cannot be given an instruction to provide zero MVars.

It was suggested that the existing default payment arrangements are aimed at incentivising the generator to remove any restriction. For generators that have a DNO connection condition restricting MVar output, the generator can not directly remove the restriction.

The materiality assessment undertaken by National Grid on the original proposal suggested that the impact of the change will be in the region of £2m p.a. by 2011.

The group discussed the proposal with the following main points:

- The proposal impacts on all embedded generation with an MSA
- Is the proposal aimed at restriction associated with connection condition restrictions or both connection restrictions and operational restrictions?
 - The proposal states that it is associated with connection restrictions and not operational restrictions.

ACTION – National Grid to clarify (National Grid)

- Concern that the connection restriction on the generator may not be known up front by the generator.
 - There is an obligation on the DNO to inform National Grid of the restriction [in the Grid Code?]
- Real issue is that with the DNO. Suggested that the DNO should pay for MVars provided by the generator to meet their requirement

Part 3 Possible Alternatives

The group suggested a number of potential alternatives proposals for the management of reactive power restrictions.

- Changing the restriction to apply to all embedded generators unable to receive an instruction (without referring to 0 MVar)
- Remove the capability requirement on embedded generators (or some other form of specific MVar removal)
- Generator does not get paid for MVars produced when operating in specified MVar output ranges
- Generators with DNO restrictions that prevent the generator's reactive output passing through 0 should get paid the full reactive payment when providing MVars due to a National Grid instruction. At other times, when the generator is producing MVars but unable to comply with the National Grid instruction, the generator would receive the following payments;
 - 20% of the reactive power price
 - Zero payment

ACTION – National Grid to consider the impact and complexity of implementing the suggested alternative proposals (National Grid)

CAP169 Overview

The group asked why the Amendment Proposal had been developed as one overall proposal with three distinct parts

National Grid stated that CAP169 was developed in this way as all elements relate to reactive power and are able to be considered together (this also reduces additional administrative burden associated with processing separate Amendment Proposals).

It remains possible to raise alternatives with sections of the original Amendment Proposal removed. Initially it was agreed that parts 1 & 2 should progress as an alternative without part 3. This was to ensure that the 'agreed' changes in parts 1 & 2 would not be voted against and hence potentially not implemented due to any potential objections to part 3.

ACTION – National Grid to develop alternative proposals (National Grid)

CAP169 Timescales

As the Amendment Proposal has a potential impact on the Grid Code (part 3 of the Proposal) and the CUSC, the aim is to develop the final proposals in time for the 21 May 2009 Grid Code Review Panel meeting (as the next Grid Code meeting is in September).

Therefore it was decided to bring forward the working group meetings to ensure that these tight timescales are met. The next meeting (2nd April) will be used principally to discuss/finalise parts 1 and 2 of the proposal, the following meeting (21st April) will be used to discuss part 3 and any alternatives proposed.

ACTION – National Grid to develop proposed timetable to facilitate this (National Grid)

2.2 Reactive market tender review

National Grid is undertaking a review of the reactive tender process. There is a consultation¹ on the web site that outlines the proposed developments. This consultation closed on the 20th March 2009.

There will be an opportunity to discuss the consultation feedback at the next BSSG meeting.

It is the aim to implement the changes in time for TR26.

3. Frequency Response Discussion

At previous BSSG meetings, the issue of the calculation of high frequency response capability at SEL was raised.

The current volume calculation methodology anchors the units HF and LF capability matrix to MEL. As the units deload level moves towards SEL, the HF capability reduces, with the capability at SEL being zero. However, as the capability calculation is anchored to MEL, if MEL is reduced by the generator, the capability matrix shifts downwards with it, incorrectly indicating that there is additional HF response below SEL and beyond the units actual capability.

A number of proposals have been developed to improve this problem. Four options have been developed (paper circulated)

The main points that were discussed are:

- Concern that the change may lead to the power delivery tables being updated
- How are the levels of HF response calculated by National Grid's control room tools?
- How do we determine the tested SEL level?

¹ http://www.nationalgrid.com/NR/rdonlyres/0FD045D4-8B63-4E01-86AB-0F89453D3851/32340/Reactive_Power_Market_TenderReview_DetailedProposa.pdf

- How do we handle units operating below SEL?
- Could we have a line in the MSA that shows whether the unit can / can not provide HF response below SEL (and to what level it can provide response)?

ACTION - National Grid to outline how the volumes of HF response are calculated (National Grid)

ACTION - National Grid to outline how this value is derived (National Grid)

ACTION - National Grid to consider how this could be done (National Grid)

The group outlined that the complexity of Option 3 and that it does not mimic what units can deliver means that it should be removed as a potential option.

ACTION - BSSG to consider their preferred option (All)

4. Next meeting

Arranged at Warwick on 2 April 2009 – 1000 to 1300.