Minutes and Actions Arising from a Extraordinary meeting held on 2nd September 2009 at National Grid House, Warwick (*via Teleconference)

Present:

David M Smith	DS	Panel Chairman
Richard Dunn	RD	Panel Secretary

National Grid

Tom Ireland	LM	Member
Brian Taylor	BT	Member*

Generators with Large Power Stations with total Reg. Cap.> 3GW

Yvonne Ryan	YR	Member*
John Morris	JM	Member*
Jim Barrett	JB	Alternate Member*

Network Operators in England and Wales

Alan Creighton	AC	Member*
Mike Kay	MK	Member*

Network Operators in Scotland

Neil Sandison	DC	Member*
Graeme Vincent	GV	Alternate Member*

Generators with Novel Units

Guy Nicholson	GN	Member*
Sigrid Bolik	SB	Member*

Ofgem Representatives

Bridget Morgan	BM	Member*
Lesley Nugent	LN	Observer*

1. Introductions/Apologies for Absence

1. Apologies for absence had been received from a variety of Panel Members and Alternates but the Secretary confirmed that the quorum of seven for a Panel meeting was met.

2. Consequential Grid Code Amendments

- **CAP169 Provisions of Reactive Power from Power Park Modules, Large Power stations and Embedded Power stations (pp09/27)**

2. DS explained that this extraordinary meeting had been convened in order to discuss proposals for the consequential amendment of the Grid Code following the submission of CAP169 by National Grid to the CUSC Amendments Panel on 27th February 2009. TI explained further that CAP169 proposed to amend the CUSC in a number of areas relating to the provision of reactive power and the associated remuneration arrangements for generators. Consequential Grid Code changes are required to facilitate the introduction of CAP169. In order to ensure that the timescales for consideration of changes to the Grid Code were consistent with those for CAP169, National Grid had decided that this separate meeting of the Panel was necessary rather than wait for the routine Panel meeting scheduled for 17th September 2009. The purpose of the meeting was for National Grid to describe the proposed consequential changes and respond to any questions from Members. If the Panel were content then National Grid would proceed to industry consultation on the proposed changes.

3. TI explained that Part 1 of CAP169 seeks to align the CUSC requirements with those of the Connection Conditions of the Grid Code in respect of the reactive capability requirement from Power Park Modules. Part 2 of CAP169 seeks to extend the obligation on National Grid to conclude MSAs with all large power stations with a reactive capability below 15 MVAr upon request. Part 3 of CAP169 seeks to introduce amended payment terms for the provision of reactive power from embedded generators, recognising that some embedded generators operate under connection restrictions which prevent National Grid from despatching them at 0 MVAr. The fundamental changes were to the CUSC but there were also some consequential changes required to the Grid Code.

4. MK asked whether National Grid were aware of any implications for Licence Exemptible Embedded Medium Power Stations (LEEMPS) arising from the proposals. He also commented that it would be helpful if the eventual Grid Code consultation paper could clarify the position of LEEMPS in the context of the consequential Grid Code changes. TI agreed to check if there were any implications for LEEMPS arising from the proposals and include the issue in the consultation document.

Action: National Grid (TI)

5. MK also questioned why the arrangements for remuneration for provision of reactive power should be so different for those relating to provision of active power. BT explained that active power was purchased by suppliers whereas reactive power was required by the System Operator to ensure system stability hence the different arrangements for payment of reactive power compared to active power. National Grid needed to be able to despatch generators to 0Mvar otherwise it would still be liable for payments for Mvars to generators and this was part of the purpose of CAP169. The default arrangements for payment to the generators for provision of reactive power was contained within the CUSC. NS commented that the DNOs' systems were engineered to cater for the MW output of embedded generation and not for the provision of Mvars onto the system. This was the key factor behind the need for restrictions on the Mvars provided by embedded generation onto the DNOs' systems. This was a fundamental difference compared to the way in which the transmission system was designed and constructed where acceptance of Mvars on to the system was important for system stability.

6. SB still believed that the restrictions on reactive power provision by embedded generators were imposed by DNOs. NS could not accept that this was a "restriction" imposed by the DNOs. It was a fundamental characteristic of the DNO's system. NS indicated that the embedded generator that wished to provide Mvars onto a DNO's system should discuss the issue with the relevant DNO in the first place. The DNO might be able to accommodate such provision but it could not be assumed that this was the case. MK commented further on this point, stating that in his opinion, in the majority of cases, the restriction was a result of a choice of user connection, i.e. the connection could be accommodated to allow reactive dispatch but this would have a higher cost. MK went on to note that in some cases a restriction may be imposed by the DNO following connection, for example, as an economic mechanism to avoid investment.

7. DS noted that there was uncertainty over the exact nature of the current restrictions on provision of reactive power by embedded generators, whether this was a restriction imposed by the DNO, a user connection choice or both. The consultation paper therefore could be used to seek more information.

Action: National Grid (TI)

8. MK asked if despatch of Mvars from an embedded generator could contravene the Grid Code Connection Conditions relating to Var characteristics since any variations would need to be agreed with the DNO in the first instance? BT believed that this could be achieved in accordance with the CCs by adjusting the target voltage set point until 0 Mvars was achieved. MK believed this would require a separate agreement between the embedded generator and the DNO. BT suggested that CAP169 was a tidying up process. Synchronous embedded generators were already despatched by National

Grid to provide reactive power and CAP169 was intended to regularise the process in the Codes. It was not the intention to introduce a requirement for new agreements between embedded generators and DNOs. MK commented that this still needed to be consistent with the DNO's understanding of the despatch arrangements. BT accepted this point and agreed to describe the current arrangements for despatch of reactive power from synchronous embedded generation more clearly in the consultation paper for the Grid Code consequential amendments.

Action: National Grid (BT)

9. AC asked if the new Annex 3 arising from the Part 1 proposals should be submitted by the generator? TI confirmed that this was the case. AC noted that the DNO network would therefore need to be modelled in the table in Annex 3. GN commented that there would be a need to specify if the voltage was HV or LV in Annex 3 as there could be both at the same site. TI agreed to review the wording to ensure that it covered these issues adequately.

Action: National Grid (TI)

10. TI explained that, as far as part 3 of the proposals were concerned, the embedded generator that was the subject of a restriction on the DNO network would need to communicate those restrictions via a revision to the diagram in PC.A.3.7.2. NS expressed concerns with the diagram in 0C2, Appendix 1. He indicated that it had little or no value since a generator under an instruction to maintain a set point target voltage cannot be easily represented on a chart showing the generator's reactive range. He would much prefer to have the option of describing the nature of the reactive power restriction on the generator. He also requested that the reference to "London" time in the drafting should be clarified. National Grid agreed to review the wording to provide flexibility in the context of OC2, Appendix 1 and clarify the reference to "London" time.

Action: National Grid (TI)

11. It was agreed that in addition to responding to the points above, National Grid would circulate a draft consultation paper to Panel Members for any further comments before going our to formal industry consultation.

Action: National Grid (TI)

3. Date of Next Meeting

12. The next regular meeting of the Panel will be held on Thursday, 17th September 2009 at National Grid House, Warwick. The meeting will commence at 10:00am.