

The National Grid Company plc

Grid Code Review Panel

5th September 2002

CC.6.3.3 Working Group - Progress Report

1. The Working Group, to review the system requirements forming the basis of the Grid Code obligations in CC.6.3.3, was formally established following the receipt of a letter from Ofgem dated 22 April 2002. The working group had been working in an informal capacity, pending the Ofgem request, and had already met on four occasions.
2. One further meeting of the group was held in June with the next, possibly final, meeting scheduled for September 2002. The terms of reference specified by Ofgem are identical to those already being used, in draft form, by the Working Group. These are attached to this report.
3. Studies undertaken by National Grid have been discussed at the Working Group meetings. These studies have compared results of operating the system with generation complying with the current CC.6.3.3 to those where the generation fall off with frequency reduces the Active Power Output to 75% at 47Hz.
4. The studies looked at the frequency range from 49.5Hz to 47.0Hz in two distinctly different ways. Above 49.0Hz, National Grid holds reserve in the form of partly loaded generation to prevent the frequency falling below 49.0Hz in the event of the loss of the largest generation infeed (currently 1320MW). Consequently, these studies sought to identify the additional response that would need to be carried on the system if the CC.6.3.3 requirement were to be relaxed.
5. From 49.0Hz to 47.0Hz, no additional response is utilised, and the system is secured by the utilisation of Low Frequency Tripping relays, embedded within distribution systems. The studies in this area of frequency excursion aimed to identify the additional LF tripping requirements required if the CC.6.3.3 requirement was relaxed.
6. The Working Group has also reviewed overseas approaches to a requirement to maintain output with falling frequency.
7. As a result of all these studies, etc the Working Group is now considering alternatives for the current CC.6.3.3 with a view to recommending proposals to the GCRP in its final report.

Geoff Charter

National Grid

Review of Grid Code CC.6.3.3 requirements for frequencies below 49.5Hz

Terms of Reference

1. To consider possible alternatives to the current requirements of Grid Code Connection Condition CC.6.3.3 for frequencies below 49.5Hz. The review will consider alternative slope characteristics between the extremes of the existing slope (requiring 95% of Active Power output at 47Hz) and a slope requiring 75% of Active Power output at 47Hz.
2. Within the framework of NGC operational Licence security standards and frequency containment and control policy, the review will assess the impact of alternative slope requirements on:
 - a. the amount of increased primary/secondary response requirement;
 - b. the amount of increased customer demand disconnection, the security and stability of island system operation for various generation deficits; and
 - c. the design settings of the existing revised automatic low frequency demand disconnection scheme. In particular, the review will consider whether changes to the scheme could counteract a reduced CC.6.3.3 requirement.
3. To consider, where possible, any CC.6.3.3 equivalent (or similar) information, requirement or practices employed by overseas utilities for comparison with the NGC Grid Code requirement.
4. To identify the minimum system requirements under Grid Code Connection Condition CC.6.3.3, taking into account the above issues and any other relevant technical, operational, or economic aspects.
5. To consider whether any changes to the identified minimum technical requirements may place constraints on commercial issues.