Grid Code Review Panel

Grid Code Modifications For Power Park Modules

Introduction

1. In May 2005, Ofgem approved major changes to the Grid Code resulting from consultations H/04 and SA2004. These changes were designed to update the Grid Code to specifically include the new generation technologies employed in renewable energy schemes. Since then, the new Grid Code requirements have been successfully applied to projects across Great Britain. However, during this period, a number of detailed practical issues have come to light through liaison with developers and manufacturers.

2. On 23 November 2005 Econnect held a meeting for the BWEA and project developers to discuss their experience with the Grid Code and Bilateral Agreements for connection to the Transmission System. The notes of this meeting were circulated to GCRP members, Ofgem and others in National Grid.

3. This paper has been prepared by National Grid to present a list of issues to be addressed where National Grid believes the Grid Code might be improved.

Background

4. Since May 2005, National Grid has identified a number of areas where improvements to the Grid Code should be made in the light of experience. In summary these are:

    a. Harmonisation of the point where voltage control is implemented and the point where the reactive range is delivered to be the connection point. This will mean a relaxation of the reactive range requirements for some directly connected generators in Scotland.

    b. Relaxation of the fault ride through requirement to allow a conditional power swing in active power recovery.

    c. Improvements to the submission of fault infeed Data and some additional mechanical turbine information for modelling and study purposes.

    d. Additional option to allow voltage control and reactive range capability below 20% active power output.

    e. Redrafting to consistently require manned control points at BELLA power stations where Balancing Codes apply.

    f. Clarification of the applicability of Grid Code requirements to Power Park Module extensions

    g. Inclusion of an additional Power Available Monitoring Signal from Power Park Modules required to provide frequency response capability.

5. In addition, the meeting chaired by Econnect noted two main areas of concern for the BWEA:

a. The first is that the BWEA believe that the dynamic voltage performance requirements being required by National Grid in Bilateral Agreements are significantly in excess of the Grid Code.

b. The second is that the BWEA believe that in some cases the reactive capability required on distribution connected generators can not be used because of constraints in the Distribution Network.

6. Regarding issue (5a), whilst National Grid agrees that the dynamic voltage performance requirements are not specified in the Grid Code, such specification in the Bilateral Agreements is fully consistent with the Grid Code and this is clearly stated in the Grid Code. This is also consistent with the practice with synchronous generators since 1990. However, National Grid proposes adding to the list under (4) above a parallel piece of work it began recently aimed at proposing the inclusion into the Grid Code of the generic technical performance requirements for Excitation Control Systems for synchronous generators and Voltage Control Systems for Power Park Modules.

Way Forward

7. National Grid believes that there are two options for progressing the above issues. These are:

a. GCRP members may submit comments and/or proposals on the above issues to National Grid. Following consideration of these comments/proposals, National will bring forward proposals to the GCRP at its May meeting

b. A sub-group comprising GCRP members or their nominees is formed to discuss the issues. National Grid would then bring forward proposals to the GCRP at its May meeting

8. Regarding the second concern of the BWEA, (5b), National Grid does not believe that this is an issue unique to renewable generation projects but is a more fundamental question relating to the division of responsibilities set up at privatisation. While National Grid is happy to discuss the provision of reactive capability on embedded generators, this can not be done in isolation from the Distribution Code Review Panel. This issue may therefore be progressed by a joint GCRP/DCRP sub-group since this would allow the DCRP to consider their requirements in this field.

Recommendation

9. The Grid Code Review Panel is invited to discuss these issues and agree the way forward including the timescale for bringing back proposals to the GCRP.