

# **Grid Code & Distribution Code EC3 (Small Embedded Generation Frequency Obligations) Working Group**

## **Terms of Reference**

On the 27<sup>th</sup> May 2008, a frequency excursion occurred on the GB Transmission System which resulted in a significant amount of generation being disconnected (both directly connected and embedded) from the electricity grid.

### **Objectives**

The purpose of the Working Group is to review the resilience of small embedded generation to large frequency excursions, resulting in both low and high frequencies, and to investigate options for improvements.

1. Work with AEP and other relevant organisation to gather further data on existing small embedded generation performance to establish as far as possible the timing and causes of the losses that occurred during the 27<sup>th</sup> May 2008 incident. Consideration of more formal arrangements for the collection of performance data for operational purposes.
2. For existing generating plant establish the current frequency operating range requirements in the Grid Code.
3. For existing small embedded generation establish the current frequency operating range requirements in the Distribution Code and the associated Engineering Recommendations.
4. Establish the current practice amongst DNOs regarding the implementation of these requirements.
5. Establish the current practice amongst existing small embedded generation in respect of protection settings that may determine the resilience of plant to frequency deviations.
6. Review the impact of limited frequency operating range of small embedded generation on Transmission System security, providing a cost benefit analysis where reasonably practicable.
7. Establish how small embedded generation can avoid adversely affecting the security of the Total System, taking into account the continual increase of small embedded generation.
8. Work with the industry to establish the generic performance capabilities of existing and future small embedded generation that could be incorporated into the Code(s) with minimal additional cost to Users, and identify the incremental capability that could be provided at additional cost.
9. Review the potential to modify, where reasonably practicable and cost effective, the frequency range settings on existing small embedded generation to improve their resilience to large frequency excursions.
10. Review and align, if necessary, the Grid and Distribution Codes (inclusive of applicable engineering recommendations<sup>1</sup>) as far as reasonably practicable and where cost effective, considering both the way it is set out in the Distribution Code and how it is implemented to improve resilience of future small embedded generation to large frequency excursions.

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<sup>1</sup> Relevant engineering recommendations are as follows: G59/1, G75/1 etc

11. Provide regular updates and report findings to the Energy Emergency Executive Committee.

**Governance**

The joint Working Group has been convened and will operate and be managed under the remit of the Grid Code and Distribution Code governance frameworks.

**Membership**

The membership of the Working Group will be drawn from the GCRP/DCRP or their nominated representatives and the Authority.

**Deliverables**

The Working Group will produce a report outlining its analysis, findings and recommendations which will be submitted to the GCRP and DCRP.

Where applicable, other relevant 'industry working groups' will be informed of the Working Group's recommendations such that the proposals may be progressed within the appropriate governance framework.

**Timescales**

The Working Group will aim to present its findings and recommendations to November 2009 GCRP and DCRP meeting.