

Grid Code Review Panel Update May 2007

Network Defence Against Widespread Voltage Collapse Low Voltage Demand Disconnection (LVDD)

Introduction

This paper provides an update to the Grid Code Review Panel on the progress of the LVDD Working Group.

Background

The LVDD proposal was raised at the February 2006 Grid Code Review Panel (GCRP) by National Grid and a subgroup was established to assess the technical, commercial and regulatory issues surrounding the introduction of a LVDD scheme as a defensive measure.

A summary of the Terms of Reference for the subgroup, are as follows:

1. Network Operators, Ofgem and other interested parties to assess whether LVDD should be introduced as a defence measure against widespread network voltage collapse, considering both the costs and risks
2. To discuss the commercial and regulatory issues. To discuss and agree whether Grid Code obligations should be introduced
3. To discuss and determine whether a LVDD scheme should be nationwide or focused in the areas most at risk
4. To develop a proposal for the basis of the Grid Code change

Working Group

The first Working Group for LVDD

The first Working Group for LVDD was held on the 5th May 2006

National Grid proposed criteria to assess whether consideration should be given to the installation of a LVDD scheme in any given area. These criteria are based on the likelihood of voltage collapse and the extent to which any collapse could impact on the whole GB system. Based on these criteria, National Grid identified the West Midlands and London as areas where LVDD should be further investigated, as significant widespread voltage collapse could occur due to severe contingencies.

Concern was raised about the effect of inadvertent tripping and the consequential compensation impact upon the DNO's under the terms of their incentive scheme. The group also identified that the potential for malicious action to bring down the system could assist in justifying the expense of a LVDD scheme.

The group agreed further work was required by National Grid focusing on London and the Midlands.

It was agreed that a joint Working Group report should be produced for Ofgem which discusses the impact, benefits and costs of introducing a LVDD scheme in order to obtain an indication of support from Ofgem before parties commit resources and time in developing a detailed design.

It was agreed at the first meeting that National Grid would draft a joint Working Group report and issue it to the group for comment on prior to the next meeting

However, the report had been delayed due to unforeseen resource issues, which has delayed the project and the Panel was updated at the September 2006 meeting. The draft report was issued to the Working Group in March 2007.

The second Working Group for LVDD

The second Working Group for LVDD was held on Monday 23rd April 2007 where the draft report was discussed.

A detailed study had been undertaken of the Midlands and London. Based on the study LVDD alone would not prevent a voltage collapse in the Midlands area due to thermal overload and would require other solutions to be developed alongside LVDD, which the group believed, was out of scope for the Working Group. The study revealed that London would benefit from an LVDD which could prevent a national incident. Consequently, the group agreed that further detailed study of London would be required.

National Grid agreed to re-draft the report to focus on the consequences of a low voltage collapse in London and the national impact; also the possible impacts, associated costs and benefits of such a scheme.

This revised report is to be submitted to the September GCRP for approval to be issued to Ofgem to obtain a view regarding funding (if possible) prior to the undertaking of the detailed study for the London area.