

Consultancy/Research Proposal

Distributed Generation Operation in an Islanded Network

Introduction

The system inertia and therefore the potential rate of change of frequency after loss of an infeed or demand is likely to change given developments in the electricity supply system in Great Britain.

The Grid Code Review Panel (GCRP) in conjunction with Distribution Code Review Panel (DCRP) has been working on proposals for an appropriate Rate of Change of Frequency (RoCoF) setting for protection against Loss of Mains¹.

The Panels have established a joint working group which seeks proposals from organisations to investigate the characteristics and capabilities of generating facilities within Great Britain at sites with a registered capacity of less than 5MW. Experience is required in small and micro-generation and its deployment in large scales across electricity networks. The working group seeks an independent assessment of the numbers and types of distributed generators in Great Britain, their ability to withstand a frequency deviation and their stability in islanded operation.

Scope of Work

The research project must provide a technical report (the technical report will be published on National Grid's website and available to all parties) including:

1. The numbers, capacities and types of distributed generators in Great Britain at sites of less than 5MW in capacity
2. With respect to the types of distributed generators identified in 1:
 - a. The general characteristics of the technologies deployed;
 - b. The behaviour of the technologies deployed in an island situation both individually and as part of a mix of multiple generators;
 - c. The capability of the technologies deployed to withstand variations in frequency;
 - d. The Loss of Mains protection techniques used and in particular whether RoCoF based techniques are used, and if not formally RoCoF, how that LoM protection reacts to frequency deviations;
 - e. The actions and costs require to implement a new minimum RoCoF withstand performance requirement
3. Relevant international experience in anti-islanding protection for generators at sites of capacity of less than 5MW and of changing protection settings and/or withstand capability for future and existing installations.

Items 1-3 are the high level objectives of the technical report.

Organisations interested in this research project are therefore requested to provide a "formal proposal" including the milestones, and cost associated with each item. The expected completion date for the project is end of xxxxx 2013.