Artificial Neural Network based Islanding Detection Technique for Mini hydro type distributed generation

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Abstract

The integration of distributed generation in conventional radial distribution system provides improvement in power quality and enhancement in the power supply capacity. However, this integration changes the nature of distribution system from passive to active and has given rise to certain technical issues. The occurrence of islanding is one of the important issues in this context. This paper presents a new islanding detection technique based on artificial neural

the grid disconnection and disconnect it self from the distribution network within 2 seconds of the islanding state occurrence.

The first step required in case of grid disconnection is to detect the islanding phenomenon, which requires an efficient islanding detection technique to detect this islanding event. Up to now several remote, passive, active and hybrid islanding detection techniques have been proposed [2-7]. Remote techniques rely on communication between the DG site and the utility whereas, local techniques rely on the measurement of the system parameter at the DG site. Power line signalling scheme [8-10] and transfer trip scheme [11] are the basic examples of remote islanding detection techniques. Remote techniques possess the advantage of