

Control of Power Electronic Interfaces in Distributed Generation Microgrids

Arulampalam, A., Barnes, M., Engler, A., Goodwin, A. and Jenkins, N.

Abstract

Technological advances and environmental pressures are driving the interconnection of renewable energy sources to the distribution network. The interconnection of large amounts of non-traditional generation however causes problems in a network designed for 'conventional' operation. The use of power electronics interfaces and the 'bundling' of micro-generation and loads into so called Microgrids, offers a potential solution. Each microgrid is designed to operate as a 'good citizen' or near ideal conventional load. This paper discusses the various elements of the new microgrid concept and presents suggestions for some typical control strategies for the various system elements.