AN INTEGRATED DYNAMIC POWER MANAGEMENT METHOD FOR ISOLATED POWER SYSTEMS

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Abstract
Owing to some salient features of isolated power systems, such as shipboard power systems and microgrids, conventional power management methods cannot be directly applied to these systems; isolated power systems are not supported from an infinite source and therefore the generation capacity is limited. Moreover, they have finite generation inertia. Furthermore, load sizes in an isolated power system may be so large compared to the generation sizes that cause considerable transients, when being switched in or out. Therefore, power management in an isolated power system is a challenging problem.

The objective of this work is to develop an integrated dynamic power management method for isolated power systems. This power management method aims to integrate several power control functions such as optimal generation dispatch, voltage/VAr control, load management, and reconfiguration for restoration functions and to be applicable to the system under all operating conditions.

Biography
Salman Mashayekh received his B.S. and M.S. degrees in Electrical Engineering, Power Systems from University of Tehran, Iran, in 2006 and 2008, respectively. He joined the Power System Automation Lab in Texas A&M University as a Ph.D. student in 2008. His research interests are in power management system for isolated power systems. His job focuses on contingency analysis, dynamic stability studies, security enhancement, etc.