

A Study of Key Technologies for the Realization of Smart Grid and Its Research Situation in Pakistan and Abroad

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Abstract : In this paper smart grid technologies which converts conventional grid into smart grid has been discussed. Integration of advanced technologies including two way communication, advanced control system, sensors, smart metering system and other provide opportunity to make conventional grid a intelligent and automatic system which is named as smart grid. This paper gives the concept of smart grid and functional characteristics of smart grid technology, summed up the research progress in Pakistan and abroad and the significance of developing smart grid. Based on the analysis of the smart grid, smart grid technologies will result a reliable and energy efficient power system in the future. On the other hand smart grid technologies have been reviewed in this paper highlighting the key technologies of smart grid, and points out the problems and challenges in the realization of smart grid.

Keywords : energy, power system reliability, power system monitoring and control, sensor, smart grid, two-way communication

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