



HVDC FACTS Controller for Load Frequency Control System

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Abstract:

Power system frequency deviation is always presented result to the continuous loads variation, thus leading to build the load frequency control (LFC) systems. In this paper, HVDC systems are used to suppression such this frequency oscillations which occur result to load variation between two-area interconnected systems. A comparative evaluation between HVDC and superconducting magnetic energy storage (SMES) are introduced in this paper to make a comparative study between different controllers to improve the dynamic performances of the power system. Two-Area Power system with AC/DC parallel tie lines is simulated and then it is subjected to different disturbances. Responses of frequencies deviation, AC tie line powers deviation and area control errors have been plotted for two areas. The system Dynamic performance using HVDC FACTS Controller is superior with fast response and less overshoot/undershoot.

Keywords:

loads variation, LFC, dynamic, PI, HVDC, SMES

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