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Secured Power flow Algorithm Including Economic Dispatch with GSDF Matrix Using LabVIEW

Authors : Slimane Souag, Amel Graa, Farid Benhamida

Abstract : In this paper we present a new method for solving the secured power flow problem by the economic dispatch using DC power flow method and Generation Shift Distribution Factor (GSDF), in this work we create a graphical interface in LabVIEW as a virtual instrument. Hence the dc power flow reduces the power flow problem to a set of linear equations, which make the iterative calculation very fast and the GSFD matrix present the effects of single and multiple generator MW change on the transmission line. The effectiveness of the method developed is identified through its application to an IEEE-14 bus test system. The calculation results show excellent performance of the proposed method, in regard to computation time and quality of results.

Keywords : electrical power system security, economic dispatch, sensitivity matrix, labview
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