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MULTIPLE CONTINGENCY ANALYSIS FOR OPTIMAL PLACEMENT AND ESTIMATE THE VALUE OF SVC FOR POWER LOSS REDUCTION EMPLOYING GENETIC ALGORITHM

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Abstract

The development of FACTs technology has been a great help in enhancing the function of power systems as it minimizes the power system instability problem, minimize losses and voltage profile. Due to high capitals involved with Flexible AC transmission systems (FACTs) devices, proper planning in the early phase of commissioning is essential so as to achieve maximum feasible use of them. Positioning FACTs devices in proper place can assist the objective of enhancing voltage levels and minimizing losses in the structure. In this paper, Genetic Algorithm (GA) is used to discover the ideal place of Static VAR Compensator (SVC) for the increase in load condition and loss of generation. An appreciable reduction in active power loss and improvement in voltage profile are observed. The MATLAB program with MATPOWER is used to demonstrate the procedure on IEEE 30 bus test system.

Author Keywords

Static VAR Compensator (SVC), Genetic Algorithm (GA), Contingency Analysis

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