Computer Based Control For Compensation of Power System Application

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Abstract:

The computer plays a vital role in all parts of life and industry, especially in the power system applications. The capacitor bank is considered as one method to improve the power factor (PF) and reduce the line current and since the equipment of the analysis cannot be provided always. Evaluating the improvement of substation 31.5 Mvar 33/11KV when fixed capacitor bank Y-Y connection of 3 Mvar compensation implanting on the medium voltage substation to improve the power factor with load variation from 10% to 100 % is proposed in this work. PSIM software package is used as a computer platform of investigation, where most effect was found from 10% to 40% of full load . At 50% of the capacity of the substation, other standards fixed capacitor bank configuration(Y-Y, grounded Y-Y,Y, Δ, Δ + Δ) was investigated and the results showed that the Δ capacitor bank is more compensated than the rest to improve P.F of the substation's power plant.