

COMPARISON OF HT SHUNT CAPACITORS AND SVC FOR ACTIVE AND REACTIVE POWER FLOW CONTROL IN TRANSMISSION LINE:

THE CASE OF RRVPNL POWER GRID

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ABSTRACT

This paper investigates the opportunities to install FACTS devices in the electric transmission network of RRVPNL power grid for the improvement in active and reactive power flow in electric transmission line. A 132 KV transmission line used to transfer electric power from a 220 KV GSS to a 132 KV GSS is modeled in MATLAB/Simulink environment. The simulation results of load flow for real and reactive power flow in the electric transmission line for an uncompensated system are studied. The results so obtained are compared with the results obtained after compensating the system by fixed (already installed) HT Shunt Capacitor Banks and SVC, a shunt compensating FACTS device, to show the improvement in active and reactive power flow in the transmission line. The results obtained after simulation demonstrate the performance of system with compensation by HT Shunt Capacitor banks and SVC.

KEYWORDS: Active Power, FACTS, HT Shunt Capacitor Banks, Reactive Power, RRVPNL Power Grid, SVC