

**LOSS MINIMIZATION AND VOLTAGE STABILITY ENHANCEMENT IN POWER
SYSTEMS USING STATIC VAR COMPENSATOR AND TAP CHANGING
TRANSFORMER**

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ABSTRACT

This paper describes the effect of the reactive power compensation by using static var compensator(SVC) and tap changing transformer in minimize losses and maintaining the voltage profile of the power systems.

The weakest bus is determined by the sensitivity index method. Then the static var compensator is installed at the weakest bust and reactive power is increased. The tap changing transformer is combined to minimize losses and voltage stability. The proposed method was applied to 14-bus and 30-bus IEEE systems is to show its feasibility and capability. All simulation was done by using the MATLAB version 7.5 programming.

Keywords:

Static var compensator, tap changing transformer, voltage stability, sensitivity index, reactive power compensation.

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