

**Distribution network line power loss evaluation  
with grid connected rooftop photovoltaic system  
utilizing over mitigation techniques**

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**This paper investigates the effect of over voltage mitigation techniques on line power loss of three-phase four-wire distribution network with rooftop photovoltaic (PV) system. Based on PVs ratings, loads and unbalance conditions, the network is modeled using backward-forward sweep method under MATLAB software environment. Active Power Curtailment (APC), Reactive Power Control (RPC), Active Power Dependent on reactive power (APD), On Load Tap Changer (OLTC) and Static Transfer Switch (STS) are applied to the test network model. The simulation results are used to evaluate the line power loss in each technique.**

**Keywords : Active Power Curtailment (APC), Reactive Power Control (RPC), Active Power Dependent on reactive power (APD), On Load Tap Changer (OLTC) and Static Transfer Switch (STS)**