

## **S1-10 “Development of TCSC Application to Fault Current Limiters”**

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### **Abstract**

After considering and expected increase in short circuit currents, difficulty of power flow control, problems of voltage distortions and so on in future distribution transmission systems, a thyristor controlled series capacitor (TCSC) application to fault current limiters (FCL-TCSC) has been developed to solve the problem of short circuit currents and power flow control. It consists of a conventional TCSC and a current limiting reactor (CLR) in series. In normal operation, it controls the power flow of the line by compensating both the CLR and the line reactance due to the TCSC control in capacitive impedance regions. In AC system faults, it limits fault currents by both the CLR and the TCSC controlled in inductive impedance regions. The paper describes the design of the FCL-TCSC, digital simulation results and test results from an analogue simulator installed with the FCL-TCSC model.