**ABSTRACT**

Various types of FACTS as well as HVDC have been available for some time. New ones have been developed recently. Their respective benefits are well proven and have been made known. System studies have to be done to make full use of FACTS and HVDC problem solving capabilities. This paper is described the technical and commercial benefits that FACT and HVDC solutions provided and case studies are presented showing how the relevant problem of power system can solved by this paper. Index Terms: FACTS, HVDC, POWER SYSTEM

The power electronic based loads offer highly nonlinear characteristics. Due to their non linearity, the loads are simultaneously the major causes and the major victims of power quality problems. Harmonics voltage sag/swell and persistent quasi steady state harmonics, dynamic switching excursions can result in electric equipment failure, malfunction, hot neutral, fire and shock hazard in addition to poor power factor and inefficient utilization of electric energy. To improve the efficiency, capacitors are employed which also lead to the improvement of power factor of the mains.