

Enhancement of the Performance of Al-Qatraneh 33-kV Transmission Line Using STATCOM: A Case Study

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Abstract : This paper presents a case study of using STATCOM to enhance the performance of Al-Qatraneh 33-kV transmission line. The location of the STATCOM was identified maintaining minimum voltage drops at the 110 load nodes. The transmission line and the 110 load nodes have been modeled by MATLAB/Simulink. The suggested STATCOM and its location will increase the transmission capability of this transmission line and overcome the overload expected in the year 2020. The annual percentage loading rise has been considered as 14%. A graphical representation of the line voltages and the voltage drops at different load nodes has been illustrated.

Keywords : FACTS, MATLAB, STATCOM, transmission line, voltage drop

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