

عنوان مقاله:

Effects of Series and Shunt Distribution FACTS Device in Distribution Systems for Voltage Improvement

محل انتشار:

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خلاصه مقاله:

This paper presents effects of Series and Shunt Distribution FACTS devices in Distribution Systems for the steady-state voltage compensation. For this purpose, Static Series Voltage Regulator (SSVR) and Distribution STATCOM (D-STATCOM) considered as a series and shunt compensator, respectively. An accurate model for each device is first presented to use in load flow calculations. The rating of these devices as well as direction of reactive power injection required to compensate voltage to the desired value (1p.u.) are presented and discussed analytically and mathematically using phasor diagram method. The validity of the proposed models is examined using two standard distribution systems consisting of 33 and 69 nodes, respectively. The best location of SSVR and D-STATCOM for under voltage problem mitigation in the distribution network is determined and the results are compared. The results show the validity of the proposed models for these distribution FACTS devices in large distribution systems.

کلمات کلیدی:

Distribution System, SSVR, D-STATCOM, Voltage Compensation

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