ANALYSIS OF IMPROVING VOLTAGE DROP WITH INSTALLATION OF BANK CAPACITORS IN GATAK WUKIRSARI DUSUN CANGKRINGAN, YOGYAKARTA

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ABSTRACT

The need for electrical energy continues to increase along with the increase in population and increasingly developed technology. The ever-increasing demand creates challenges in meeting electricity needs and the quality of electricity itself. Not infrequently, along with increasing demand, electricity quality decreases, one of which is a voltage drop. To overcome the voltage drop problem, one way is to use a capacitor bank. In this research, Etap software is used as a simulation tool to determine the voltage drop value and the need for capacitor banks which will be used to correct the voltage drop. OCP Optimal Capacitor Placement is a feature of the Etap software which is used to analyze the need for capacitor banks to correct the voltage drop. Results The simulation in Etap shows that the voltage drop that occurs in the distribution network in Cangkringan sub-district is 379 Volts (5.25%) and after compensation, the voltage drop value becomes 392 Volts (2%). With the addition of the installation of a capacitor bank with a capacity of 94.1 Kvar.

Keywords: Voltage drop, OCP, ETAP, Capacitor Bank