

# **FEASIBILITY ANALYSIS OF USE OF BANK CAPACITORS TO IMPROVE POWER FACTORS AT THE GRAND INNA MALIOBORO HOTEL**

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## **ABSTRACT**

*The installation of a capacitor bank is one way to reduce power losses to consumers, by generating reactive power that will make the system or network more reliable and efficient, especially for medium and high voltage consumers which have a minimum limit of 0.85 for the power factor value. Hotel Grand Inna Malioboro capacitor bank which is about 20 years old with 13 remaining capacitors due to 3 damage with a total capacity of 325 kVAR. In this final project research using the power flow simulation method on the ETAP 19.1 application and calculation of reactive power requirements. The results obtained in the study are the power factor value on the electricity bill of 0.9478. The simulation results with a power flow without a capacitor, the power factor value is 0.8627 with an active power load of 506 kW, after installing a capacitor with a capacity of 126.76 kVAR the power factor value becomes 0.9475. From the results of the calculation of the lowest power factor value of 0.7168..*

**Keywords:** bank capacitor, power factor, ETAP simulation