

ABSTRACT

The State Electricity Company strives to provide electric power services according to consumer needs by providing an electric power system that is of high quality, continuity and reliability. This can be achieved if the electric power system has constant stability and voltage at predetermined values. In fact, it is difficult to get a constant voltage because high load currents will cause losses and voltage drops. The tap changer is a very important component in a transformer. Due to the voltage drop across the feeder, the voltage on the consumer side will be lower than the nominal value. To meet the needs of consumer voltage, the tap changer will experience changes due to the voltage drop that occurs in the Solok substation power transformer. In the normal position of the tap changer (6th position) the 20 MVA power transformer sent a voltage of 20.6 kV, the 60 MVA power transformer sent a voltage of 20.7 kV, is in the tap position 6. From the results of the analysis, it is found that a voltage drop of + 10% is found in the batu plano feeder, to get constant voltage, then the tap changer is changed to the 20 MVA power transformer by sent the voltage to 20.9 kV, the 60 MVA power transformer sent a voltage of 21 kV, is in the tap position 5, with a voltage drop efficiency value of $\pm 5\%$.

Keywords: *Power transformer, tap changer, voltage drop.*
