EFFORTS TO OVERCOME VOLTAGE DROP AND POWER LOSS IN LOW VOLTAGE NETWORKS WITH GARDU DEVELOPMENT OF TIPE PORTAL SIDES

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ABSTRACT

In the system of reliability of electric power distribution that is concerned is good and stable voltage quality, because although the continuity of the supply of electrical energy is reliable, but still there will be a voltage drop. Another factor that affects the system voltage change is the power loss caused by the impedance of the conductor channel series, this power loss causes a voltage drop. Consumers who are located far from the service point tend to receive relatively lower stresses, when compared to the voltage received by consumers who are located close to the service center. The existence of a voltage drop on the receiving end pole can cause the network current to be high so that losses that occur in the network increases. To overcome these problems then performed network repair by building substation distribution insertion so as to improve the quality of the voltage and minimize the loss of power on the network. From the calculation of the percentage value of the voltage drop in PT. PLN Area Cikupa before the installation of the substation is 10.6% for the S phase 1 and 11.7% for the S phase 4, the value is not in accordance with SPLN No. 1 of 1995, the tolerance limit of service voltage variation as a result of voltage loss is a maximum of + 5% and a minimum of -10% at the service side. After the installation of the substation was installed, the voltage dropped to 5.1% for the S phase 1 and 6.1% for the S phase 4, where the value was in accordance with the standard.

Keywords*: Insertion, voltage drop, power loss, efforts to overcome voltage drop and electric power loss.*