RECONFIGURATION OF DISTRIBUTION NETWORKS FOR BNL 06 FEEDERS AT BANTUL SUBSTANCE IN SUMMING POWER LOSS USING ETAP SOFTWARE

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ABSTRACT

The increase in the use of electrical energy is clear evidence that the level of quality of human resources is heading towards a better direction. The BNL 06 feeder is part of the unit 3 transformer of the Bantul Substation with a capacity of 60 MVA. Based on the peak load data of PT. PLN (Persero) UP3 Yogyakarta in 2020, the average peak day and night feeder load increased to 335 A. With the increase in peak load every year, the percentage of voltage drop also increases and causes the reliability of distribution to decrease and the supply of electrical energy to consumers will not run optimally so that the level of power losses in the distribution channel is increasing. The network reconfiguration method is applied by shifting the load to other feeders that have a smaller load through simulation using ETAP software. The reconfiguration was carried out by moving most of the BNL 06 feeders to BNL 14 feeders which eventually resulted in losses before and after of 43,198 kW and 14,066 kW. While the percentage of voltage drop both before and after are 3.59% and 2.32%. Based on these results, the difference is 29,132 kW and 1.27%.

Keywords*: Voltage Drop, Losses, Reconfiguration*