

## ABSTRAK

Electric power transmission is the process of channeling electric power from the place of the power plant (Power Plant) to the substation distribution so that it can be distributed to the consumer electricity users through a conductor material. In the distribution of electrical power distribution losses will occur in the amount proportional to the length of the channel. The use of higher voltage levels is a solution to this problem. However, if the voltage continues to increase, corona events will occur. In the corona event there are several factors that influence namely natural factors and technical factors, so that corona losses can be minimized, this study analyzed the influence of corona on power losses based on the configuration of wire bundles on SUTT 275 kV from GI KiliranJao - GI Payakumbuh . If the corona critical voltage ( $V_{kk}$ ) is higher than the line voltage to neutral ( $V_{LN}$ ), the corona power losses ( $P_K$ ) are 0 either in wet or dry conditions, but when wet conditions corona losses will appear more quickly ( $V_{kk} > V_{LN}$ ). Corona power losses with 2 bundle conductors at the distance of the sub conductor beam, during wet weather conditions the distance between sub conductors is  $d = 1.4225$  cm. And when conditions are dry equal to  $d = 2.4225$  cm. And if you use a bundle without a bundle, large corona power losses will appear in both wet and dry conditions ( $V_{KK} < V_{LN}$ ).

**Key words:** SUTT 275 kV, Corona, power losses, and bundle configuration