ABSTRACT

Annual Report of PT. PLN (Persero) in 2012 informed that the forecasting of electricity demand increase an average of 5 to 7% per year. When calculated as an annual period, an increase of about 100 thousand customers per year underlies the PT. PLN (Persero) managerial to do a strategic action (effectively and efficiently), particularly in planning the process of the primary distribution network maintenance. Later on, the election planning of primary distribution network circuit is being the first strategic step in dealing with the target changes that have been set. The primary distribution network circuit is chosen because of the strong relationship or association affecting technical losses during load devolution. If the combination of the using of a primary distribution network circuit have been chosen appropriately and correctly, the load devolution process will work effectively and efficiently. Load forecasting and Binary integer programming was selected as the final completion because of its ability to provide strategic solutions to solve problems in the selection of primary distribution network circuit. Load forecasting can predict the number of loads when load devolution is being done and Binary integer programming can translate some primary distribution network circuits election into one decision, precise, correct and strategic. The research results showed that both methods can minimize the energy loss. The average energy loss decreased 25% of the total requirement of 18.173 KVA with a target amount of losses amounting to 107 KVA.

Keywords: Increasing of customer, Primary distribution network circuit, Load devolution, Load forecasting, Binary integer programming.