ABSTRACT

In the maintenance system, the availability of materials will determine the service level. For PT PLN Persero, APJ Gresik, it will also affect their ability to supply electricity for customer. This study assigned the issue of inventory control of materials for maintenance activities at PT PLN Persero, APJ Gresik.

This study is using system approach to continuous review (s,S) method, where s is the reorder point and S is the maximum stock. Material is classified to know the characteristic of each material demand. Simulation is performed by increasing and decreasing s and S value on a certain interval with 95% service level target. The simulation result should comply with service level target which has minimum total cost.

The simulation result indicated that the value (s,S) obtained from the formula did not always provided the best service level and total cost. Better improvement for service level and/or total cost will be obtained by increasing and decreasing s and S value in certain interval. In summary, from 43 materials analyzed, average of total cost has decreased 1.01% and for service level has increased 3.10%.

**Keywords**: material, inventory control, continuous review