

ABSTRACT

Cooling Water Treatment Unit at PT. Pupuk Kujang Cikampek (called as PKC) functions to maintain the quality of its water by using chemicals. The Cooling Water Treatment Unit has not used standard calculations. Inventory policy is taken only by estimation. This situation resulted in overstocks which caused problems with the swelling of the total cost of inventory. The researcher is expected to be able to propose the right method of inventory control policy to minimize the total inventory cost.

Based on calculations using the Distribution Free Continuous Review (Q, r) method with Service Level Constraints, obtained total inventory costs of Rp 207,944,636, while the actual value is Rp 413,437,333. Based on the sensitivity analysis, known that the changes in holding cost parameter is more significant than changes in the ordering cost parameter.

Based on data processing and analysis it can be concluded; that the Distribution Free Continuous Review (Q, r) with Constraint Service Levels can be used as proposal policy due to its saving of total inventory costs as much as Rp205,992,697 (49.82%).

The researcher suggests that to monitoring continuously the inventory level of chemicals when using chemical, and everytime the inventory level is touching the reorder point (r) of proposal policy, it is necessary to replenish as much as quantity order (q) according to the proposal policy using Distribution Free Continuous Review (Q, r) method with Service Level Constraints.

Keywords: continuous review, overstock, inventory policy, service level, sensitivity analysis