ABSTRACT

Indonesia is one of the largest coal-producing countries in the world, where coal is spread in several areas in Indonesia such as on the islands of Kalimantan, Sumatra, and others. Coal is used as a power plant, so sufficient supply is needed from companies that produce coal to power generation companies so that power plant operations can continue to run. And coal is also used in the cement, paper, and several other industries as a heat source or energy source from the processing process in these industries.

There are several companies that produce coal in Indonesia, one of which is PT Bukit Asam which is located in the South Sumatra region, precisely in Tanjung Enim. Due to unpredictable coal demand, PT Bukit Asam provides as much coal stock as possible to avoid stockouts. Due to this condition, PTBA often experiences overstock which causes the costs to be borne by PTBA to be large enough to provide maintenance and storage on coal so that its quality is maintained.

And PTBA also does not have a safety stock policy, so there are months that experience stockouts due to high demand. This causes PTBA to have to pay more to transport coal from temporary stock to fulfilled the demand. PTBA itself uses the backorder principle that it is better to spend more to be able to fulfill demand than to experience lost sales.

In this final project, the author will minimize overstock and stockout for PT Bukit Asam's coal storage using the periodic review method (R, s, S) involving several cost assumptions that have been confirmed by the field supervisor at PTBA. The results obtained are Interval Review Time (R) = 1.2 days, reorder point (s) = 167,675.22 tons, Maximum inventory level (S) = 170,246.01 tons, and safety stock (ss) = 100,306.73 tons. Then the author tried to simulate the proposed inventory policy with simple simulation in excel the result is the total inventory cost can decrease 38% from the actual condition where the total inventory cost consist of the decrease of Total Holding Cost as big as 17% from the actual total holding cost, the shortage cost is decrease 100% because there is no stockout case and the last the Total Procurement cost is increase 20% from the actual total procurement cost.

Keywords— ***Coal, Inventory Policy, Minimize overstock and stockout, Periodic Review, Safety Stock***