ABSTRACT

ANDRY KURNIAWAN B. Determining the Right Fuel Inventory by EOQ Probabilistic Methods (Case Study XYZ Gas Station in Bogor). Supervised by MA’MUN SARMA as Chairman, and NORA H. PANDJAITAN as member

Frequency of fuel ordering at XYZ gas station was irregular because it was decided based on estimated needs. It caused sometimes the tank could be empty or over stock. This condition results in difficulty to predict the provision of funds for fuel payment. According to this problem, it was necessary to analyse the influence of stock volume and total of fuel sale on fuel ordering at XYZ gas station. The objectives of this study were: a) to identify profile and controlling process of fuel inventory at XYZ gas station, b) to analyse cost parameter which influenced fuel ordering, c) to determine optimum of fuel ordering; and d) to determine the right time for fuel ordering. Primary datas were collected by using questionnaires and secondary data were consist of total receipts, sales and stocks of premium, pertamax and diesel (solar) fuel in 2008, and its prices in 2008. Analysis was done by EOQ probabilistic methods.

The analysis result by EOQ probabilistic method showed that the premium optimum order was 23.942 lt. According to the capacity of tank trucks carrying fuel, then the premium ordering by XYZ gas station was 24,000 kl. Solar products showed optimum order value of 10.933 lt. In accordance with the capacity of tank trucks carrying fuel, then diesel fuel ordering was 8,000 kl. Optimum order for pertamax product was 2.484 lt. The capacity of the lowest fuel tank truck was 8.000 lt, so the value of pertamax ordering was 8,000 lt. It means that every time pertamax excess would be 5.516 lt and this condition would increase cost savings for pertamax inventory. This was additional costs that must be accepted by XYZ gas station due to limitations of Pertamina fuel tank truck capacity. The result analysis showed that premium ordering was done when premium stock in the inventory tank was 24.008 lt, or when solar stock in the inventory tank was 12.682 lt for solar ordering and when pertamax stock in the inventory tank was 1.534 lt for pertamax ordering.

Key words: EOQ Probabilistic, premium inventory, solar inventory, pertamax inventory, gas station