

ABSTRACT

Spare parts inventory management is essential to many upstream oil and gas companies. Due to its main function to support maintenance of plant's machines, the stockout of spare parts needed could harm the operation and decrease. In other hands, the higher level of spare parts inventory can increase the operation cost. At JOB Pertamina Talisman Jambi Merang's SKN gas facility processing, higher inventory level of spare parts intended to avoid performance decreasing of some critical engine which affect the performance of production operation at the facility.

Based on demand pattern classification of spare parts material using ADI-CV analysis, the pattern of consumable spare parts's demand known as lumpy demand and following Poisson distribution. Heuristics approach and periodic review model used to solve the overstock of consumable spare parts inventory. A cost reduction initiative for reduce total inventory cost of consumable spare parts performed by applying the Periodic Review policy (R,s,S) with Power Approximation approach for determine the inventory parameter.

The application of Periodic Review policy (R,s,S) on JOB Pertamina Talisman Jambi Merang's consumable spare parts inventory system can reduce the total inventory cost up to 8,54% lower than the existing total inventory cost. In other hand, the application of Periodic Review (R,s,S) can increase the consumable spare parts inventory system's service level up to 1,11% higher than the existing service level.

Key words : ADI-CV Analysis, Cost Reduction, Inventory Control, Inventory Policy, Lumpy Demand, Periodic Review (R,s,S), Power Approximation, Spare Parts