

ABSTRACT

PT XYZ is a company that produces ammonia, urea, and NPK. The engine that has an important role in PT XYZ is X engine, because it has an important role in supporting the CO gas purification process. Machine X is a machine that has the highest frequency of damage based on downtime data. Damage that occurs can be caused by several external causes, among others due to the performance of Machine Oil Quality (MOQ), Machine System Temperature (MSTe), Operator Skills (OPT), Maintenance Crew and Service Skills (MCSK) and Environmental Factor and Dust (EFD) not good. Based on data on the frequency of damage, engine X is the machine with the highest frequency of damage that is 70. To overcome the problems that occur, an optimal inventory policy is needed by the company to guarantee the availability of spare parts if the spare parts are needed to prevent out of stock. The method used in this study is Reliability Centered Spares (RCS) to determine the need for critical components for one year using Poisson Process, Economic Order Quantity (EOQ) to determine the optimal purchase amount, Min Max Stock to determine the maximum and minimum inventory in the warehouse and determine the critical component Reorder Point as the point to reorder parts. By using the Reliability Centered Spares (RCS) and Min Max Stock methods, the need for Bearing Ball is 19 components in one year, Mech Seal is 15 components in one year, and Impeller is 12 components in one year.

keywords : Reliability Centered Spares (RCS), Poisson Process, EOQ, Min Max Stock, Reorder Point