

## **ABSTRAK**

*PT ANS is a company that produces fertilizer in Indonesia. The COSORB P-201 pumping machine is a machine used by PT ANS to produce fertilizer and operates 24 hours continuously. Problems that often occur in PT ANS are on the COSORB P-201 pumping machine with 70 times amount of damage during 2017 to 2019. Therefore, the company implements preventive maintenance and corrective maintenance to ensure the COSORB P-201 pumping machine's performance to keep working in accord with its function. The purpose of this study was to determine the treatment time interval and the estimated cost of efficient maintenance. So the method chosen in this study was Reliability Centered Maintenance (RCM) which used the Failure Mode Effect Analysis and Critical Analysis (FMECA) to obtain an output in the form of RPN values on the critical components which selected in the system, namely ball bearings, mechanical seals, and impellers. Based on the results of data collection and data processing using the RCM Worksheet then maintenance policies are determined with the results of 2 scheduled on-condition tasks, 1 scheduled restoration and 3 scheduled discard tasks with maintenance time intervals according to each task category. The total cost of proposed treatment was Rp 530.518.400. The difference in actual maintenance costs and proposed maintenance costs can save maintenance costs by Rp 229.659.200.*

*Keywords : Maintenance, Reliability Centered Maintenance, Failure Mode Effect and Critical Analysis, RCM Worksheet, Maintenance Cost.*