

## **ABSTRACT**

*Maintenance is a form of activity that aims to keep the equipment in the best condition. The maintenance process includes, testing, measuring, replacing, adjusting, and repairing. By carrying out maintenance and maintenance on machines and production facilities, of course, it requires costs. In this case, the costs incurred at the time of maintenance and maintenance of the machine on a scheduled and periodic basis. The company uses the First Expeller EK-150-K machine at PKO Tandun PTPN V in the process of processing palm oil into semi-finished oil (CPO). In 2020 the First Expeller EK-150-K machine often suffered damage when carrying out the processing process, the high frequency of damage resulted in the company not reaching its production target in one year. The high frequency of damage is caused by the company not yet carrying out machine maintenance activities optimally. To solve this problem, the author proposes a Maintenance Design on the Expeller machine using the RRCM method with the aim of knowing the time interval of component turnover and recommending maintenance carried out on some of the components studied in PTPN V. In determining critical components, this study used RPN from the First Expeller EK-150-K engine components and selected 3 critical components, namely Bearing, Mainshaft, and Body Cage. Based on the calculations made using the RRCM method, 5 proposed maintenance tasks were obtained, including 3 schedules on condition tasks and 2 schedule discard tasks. In the bearing component, namely for the schedule on condition task is carried out once every 0.86 weeks and for the scheduled discard task is carried out once every 3 weeks, the main shaft component for the schedule on condition task is carried out once every 19 weeks and for the scheduled discard task is carried out once every 2 weeks, as well as the body cage component for schedule on condition task is carried out once every 1 week. the total cost of existing maintenance is IDR 2.607.214.792 while the total proposed maintenance cost is IDR 2.341.412.234 Based on this data, the proposed maintenance cost has a lower price of IDR 265.902.558. of the total cost of existing maintenance.*