

## **ABSTRACT**

*PT Apac Inti Corpora is a yarn and textile producer engaged in yarn spinning and fabric weaving. The company uses machines to support the production process in the production process, one of which is a ring frame machine. Based on downtime data owned by PT Apac Inti Corpora, the FA-503/480 ring frame machine has a high downtime value. The critical components of the FA-503/480 ring frame machine were determined using a risk matrix. The selected critical component of the FA-503/480 ring frame machine is the Electromagnet. In this study, the authors use the Reliability and Risk Centered Maintenance (RRCM) method because this method aims to determine the optimal time interval to perform maintenance for selected critical components and determine the total maintenance cost. The results of data collection and processing that have been carried out are known that the results from the RCM Information Worksheet that this electromagnet functions to move the ratchet to be separated from the lifting gear, so for failure of its function the electromagnet fails to move the ratchet to detach from the lifting gear, then for the failure mode on the electromagnet is the coil on the electromagnet is disconnected so that for the failure effect of this electromagnet, the coil of the electromagnet that is disconnected is not able to move the ratchet so it is not possible to operate. From the results of data collection RCM Decision Worksheet from consequence reference classifies failure mode which consists of 4 categories, namely hidden failure (H), safety consequences (S), environmental consequences (E) and operational consequences (O). Based on the consequence reference, the failure mode for hidden failure (H) is yes (Y), safety consequences (S) is yes (Y), environmental consequences (E) are no (N) and operational consequences (O) are yes (Y). For proactive maintenance tasks, one maintenance is obtained, namely the scheduled discard task. Furthermore, for the default action in this study, the result is no (N) because the electromagnetic component can be completed with the scheduled discard task. Furthermore, for the uncertainty assessment assessment in this assessment, no M/H or H results were found, which means that the proposed maintenance already proposed is correct, it is not necessary to make another proposal. To calculate the*

*maintenance time interval, loss of revenue data is needed. It is known that PT AIC can produce 2 bales in 1 hour so, sodowntime cost of Rp. 3,400,000 (hours) is obtained. For technician wages per hour Rp13,218 and per shift Rp92,529. The material cost data consists of data on the cost of using preventive maintenance equipment of Rp. 465,026,577 and corrective maintenance of Rp. 1,239,916.38, the cost of consumables is Rp. 1,473,292 and the price of electromagnet components is Rp. 83,499. In the cal the discard task time interval calculationotal cost incurred for maintenance (Cm) is IDR 5,430,847, the component replacement cost (Cf) is IDR 125,632,152 and the maintenance time interval for components is once every 4 weeks. The calculation of existing maintenance costs is Rp. 97.755.246, while the proposed maintenance costs are Rp. 81.462.705. So it can be concluded that the proposed maintenance cost is Rp. 16,292,541 lower than the existing maintenance cost.*

***Keywords: Maintenance, Reliability and Risk Centered Maintenance, Risk Matrix, RCM Information Worksheet, Proposed Maintenance.***