

ABSTRACT

PT Dirgantara Indonesia (DI) (Indonesian Aerospace Inc.) is the first and one of some aircraft industry in Indonesia. In producing its products, PT Dirgantara Indonesia following the strict procedures of the subscriber contract. PT Dirgantara Indonesia is required to fulfill orders in a timely project. Therefore, PT Dirgantara Indonesia is required to have machines that are always in good condition in the production process. One machine that is a key facility in PT Dirgantara Indonesia is Millac Okuma & Howa machine, if the machine failed it will disrupt production activities. One of the biggest effect is the production cycle will be decline. Moreover, the aging of the engine and increasing the hazard rate of the machine will happen. So, it is necessary to do the optimization of maintenance crew and the retirement age of machine. In addition, the calculation of the optimal number of machines also need to be done and continue to get the most minimum of total life cycle cost. So that necessary to evaluate and repair a preventive maintenance activities then carried out an optimization of the maintenance crew, engine life, and the number of machines.

Based on the TTF and TTR in 2006-2012, it can be done plotting and determination of the distribution. Further doing quantitative data processing to process Sustaining Cost data (consisting of operating costs, maintenance costs, and Shortage cost) and the Acquisition Cost (comprised of purchasing costs and population cost) to get the most minimum life cycle cost. In addition, doing calculation of the optimal time interval on each machine for further processing to obtain more qualitatively the optimal preventive maintenance policy using the Reliability-Centered Maintenance (RCM). By combining these two methods are expected to obtain maintenance activities effectively and efficiently (effectively reducing the rate of damage and efficiently in cost).

Based on the calculation of life cycle cost obtained the lowest total of life cycle cost that is Rp 8,934,789,942. To achieve the lowest LCC is necessary to optimize the number of maintenance crew personnel to 9, 5-year life of the engine and the engine number of 16 units. If the engine life will be extended to 8 years of the total LCC will increase by 15.13%, a substantial increase.

Keywords: Maintenance Management, Optimization, LCC, Reliability-Centered Maintenance