

ABSTRACT

PT XYZ is a company in the printing industry. The order which is received increased rapidly. In the process of operation, the machines that exist in the company were required to always be in good condition. Mitsubishi 1F-15000 is the most often damaged and has big downtime in the sheet printing division. It has led a big expenditure to the improvement and the possibility of delay in the completion of project that cause the penalty cost. Optimization in retirement age and maintenance set crew using LCC for the machine is needed.

To get the optimum LCC, it takes the management fee that related to LCC method. These costs are divided into two, namely sustaining cost and acquisition cost. Other method is OEE. OEE is a tool to measure and determine the performance of the machine. In the implementation, it also research on the losses to determine what factors are causing the low of OEE value. The factors are six big losses.

Based on LCC method, the lowest LCC amounted to Rp 1.171.722.273 with a team of maintenance set crew (two engineers) and the optimal retirement age is 5 years. Based on OEE method, OEE values for amounted to 76.94%. This value is quite far from the criteria that established by the Japanese Institute of Plant Maintenance (JIPM) amounted to 85%. From the six big losses, it's known that the most influential factor to decrease the effectiveness of the machine is idling and minor stoppages factor, which is the percentage of the loss amounted to 44.55% from the total losses.

Keywords— *[Life Cycle Cost (LCC), Overall Equipment Effectiveness (OEE), Six Big Losses]*