ABSTRACT

PT BIG is a textile company industry in Indonesia that is located in Tarajusari Street, Banjaran, Bandung. PT BIG is producting design cloths and prayer rugs which are prominent product in PT BIG. Production activity is demanding enterprise engine to operate properly. Weaving machine 251 is one of others weaving machine that is use to make design cloths. In 2014, Weaving machine 251 has the highest downtime so that the machine cannot work in optimum time. To overcome this, the company needs activities of maintenance on the Weaving machine 251.

To determine the amount of maintenance crew and the retirement age from a machine, the method that is needed is Life Cycle Cost (LCC). To get the total of LCC, the cost of processing required by the LCC method which are sustaining cost and acquisition cost. Another method that is needed is the method of Overall Equipment and Effectiveness (OEE) to determine the value of availabiity, performance rate, and the rate of quality product form a machine. Further, the examination of the six big losses factor is needed to determine what factors that leads to low OEE value.

Based on the LCC method, the lowest LCC total amount is Rp 967.826.380,00 with the optimal retirement age is three years and the optimal maintenance crew is one people in each shift. Based on the OEE method, the calculation of OEE values of Weaving machine 251 is 81,20%. The result is not fulfill the standards of Japanese Institute of Plant Maintenance (JIPM) which is 85%. From the six big losses factors, the most influential factor that is decreasing the effectiveness of Weaving machine 251 is equipment failures, which is 77,08% of the total losses.

Keywords – Life Cycle Cost, Overall Equipment Effectiveness, Six Big Losses