

ABSTRACT

PO Rajawali Project is a heavy equipment rental company located in Baleendah, Kabupaten Bandung. PO Rajawali Project rents a various kinds of heavy equipment such as excavators, bulldozers, trucks, etc. Kobelco SK200 excavator is one of the excavators owned by PO Rajawali Project which has the highest failure rate compared to the other heavy equipment. To overcome this, it is necessary to do proper maintenance activities on Kobelco SK200 excavator.

In this case, the Life Cycle Cost (LCC) method is required to determine the number of maintenance crew and the optimal retirement age of the excavator. In order to obtain the optimal LCC, it is necessary to calculate the costs with LCC method, which is sustaining cost and acquisition cost. Another method used is the Overall Equipment Effectiveness (OEE) method to determine the performance and the effectiveness of excavator. Another thing done on the OEE method is the determination of six big losses to determine what factors cause the low value of OEE.

Based on the LCC method, the lowest LCC total amount is Rp.250.877.275 with the optimal retirement age life for 17 years and the optimum maintenance crew of two people. Based on the OEE method, the OEE value is 85.05%. These results have reached the standard set by the Japanese Intitute of Plant Maintenance (JIPM) of 85%. From the six big losses, it is known that the most influential factor to decrease the effectiveness of Kobelco SK200 excavator is the defect losses dan reduced speed factor, which is 27.3% each of the total losses.

Keywords – Life Cycle Cost (LCC), Overall Equipment Effectiveness (OEE), Six Big Losses