ABSTRACT

PT BlueScope Lysaght Indonesia is a part of global BlueScope Lysaght Steel Limited, headquarter in Australia. PT BlueScope Lysaght Indonesia has become a leader in production sector as a leading provider of materials and coated steel for roof and walls. Recently in PT BlueScope Lysaght Indonesia, Jakarta, there are thirteen profile machines to produce the roof and walls with different shapes.

Machine plays an important role in productions in order to meet specifications defined by the appropriate amount machine production capacity and in order to meet every demand from consumers. Hence, effective maintenance activities of profile machine are needed so it can minimize costs and optimize maintenance schedules. Maintenance policy used is Reliability Centered Maintenance (RCM). Policy of profile machine maintenance is performed using qualitative and quantitative analysis.

In profile machine maintenance, part replacement will be held so that part availability is very important. So when a part is needed, it will not require too much time to do such replacement and production process will not be disturbed. For defining the amount of spare part need, Marginal Assurance method is used. Machine maintenance is performed by maintenance team. A big amount of maintenance team will increase operation cost. But in other hand, the lack of maintenance team will also cause big cost as a result of downtime that will lessen company profit. So, in order to define the optimal amount of site crew, Life Cycle Cost (LCC) method is used.

Results obtained from qualitative analysis by using the RCM method are five on scheduled activities and five scheduled restoration activities. Result from the quantitative calculation is different for thirteen machines. Interval of machine maintenance decided before Mean Time Between Failure (MBTF) of every machine. Meanwhile result from calculation using LCC method shows that amount of optimal maintenance team is M=1 with retirement age n=5 year and cost of Rp.13.794.779.743,15.

Spare part procurement using marginal assurance method chose procurement periode with twice a year procurement with total 77 O-rings, 48 bearings, and 36 encoders, with total overall cost of Rp198,758,364.94.

Keywords : profile machine maintenance, RCM, LCC, Marginal Assurance.