

ABSTRACT

PT Pindad is an Indonesian government owned manufacturing industry specializing in military and other commercial product such as railway equipment. One of railway equipment product manufactured by PT Pindad is shoulder e-clip that produced in Disamatic production line Tempa and Cor I Division. Disamatic production line has three sub department that consist of 5 machine are Furnace Machine, Mixer Eric Machine, Disamatic Machine, Shake Out Machine, and Shot Blasting Machine. In running production process, machines in the Disamatic production line has very important role that the produced products appropriate with the quality and quantity of customer desired. If one of machine is damaged, the company can not do the production process because every machine needs input from the released output on the previous machine. Based on historical data in 2012, Shot Blasting machine has the highest number of downtime, so the research will be focused on Shot Blasting machine. Based on the interview, corrective maintenance activities are performed is estimated at 90% of all maintenance activities. Therefore, it needs a proper maintenance task and optimum interval preventive maintenance time for Shot Blasting machine that considered the risk factors and the condition of the machine at the present time.

Determination of appropriate maintenance task performed using Realibility Centered Maintenance (RCM). Based on the results of data processing using RCM, obtained 5 policies for all components Shot Blasting machine which includes scheduled restoration task, scheduled discard task, scheduled on-condition task, finding failure and run to failure. There are 7 components with scheduled on-condition task, 5 components included in the policy scheduled restoration task, 10 components with scheduled discard task, 6 components with failure finding and 8 components with run to failure. Risk Based Maintenance is performed to determine the risk and consequences caused by mechanical system failure of Shot Blasting Machine. The risk caused by mechanical system failure within 1 year or 8760 hours is Rp. 309.584.486,22. According to the analysis which is performed by comparing risk and risk acceptance criteria generated that the risk which is incurred due to the failure of mechanical of Shot Blasting machine within 1 year exceeds the risk acceptance which was determined by PT Pindad. Therefore, it is necessary to determine the optimum interval preventive maintenance time which aims reducing the risk caused by failure machine. By implementing the proposed of preventive maintenance activities, the company can carry out maintenance activities with the optimum time interval.

Key Words: Realibility Reliability-Centered Maintenance, Risk-Based Maintenance, Preventive Maintenance