

ABSTRACT

PT Pindad is an Indonesian government owned manufacturing industry specializing in military and other commercial product such as maritim equipment. One of the ships equipment products manufactured by PT Pindad is Assymbly Frame manufactured in DEPSIN. Machines that can be used for the production of Assymbly Frame, there are 2 that Weldrich Siegen and Toshiba. Because the machine Weldrich Siegen being damaged, then the Toshiba machine work alone, and if the Toshiba machine can not be used, the company can not perform the production process. Based on historical data in 2011 and 2012, the Tohsiba machine has a number of down time average DEPSIN exceeds the specified amount, so that the study focused on Toshiba machines . 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 theresults of data processing using RCM, obtained 4 policies for all components Toshiba machine which includesscheduled restoration task, scheduled discard task, scheduled on-condition task and finding failure. There are 11 components with scheduled on-condition task, 4 components included in the policy scheduled restoration task, 2 components with scheduled discard task and 1 components with failure finding. Risk Based Maintenance is performed to determine the risk and consequences caused by mechanical system failure of Toshiba Machine. The risk caused by mechanical system failure within 2 year or 17520 hours is Rp. 409.214.956,50. 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 Toshiba machine within 2 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. Because of the high downtime, then the calculation is done also divided into Repairable spare parts and nonrepairable, showed procurement of spare parts 58 non-Repairable and 17 Repairable spare parts

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