

ABSTRACT

PT .PINDAD is an Indonesian manufacturing company engaged in military products and commercial products. PT.PINDAD has several divisions and departments, one of them is the Department of Machining. The production process of this departmet produces a wide range of engine parts are ordered from other divisions within the company or outside the company. In the machining department , there are a variety of machines that are grouped into 5 typethere are, lathe, milling, grinding, drilling , and CNC. The types of CNC machine is a kind of machine that has the highest downtime. CNC (Computer Numerical Control) machines have 9 operating for 24 hours. The high amount of downtime due to the nature of the machines operate longer than other types of engines, and also because wait for the availability of spare parts. High number of orders from the company making these machines must work optimally, but if the engine is damaged it is very influential in accuracy in complete orders. Therefore, it is necessary to measure the effectiveness of the use of the machine using the Overall Equipment Effectiveness (OEE) or Total Equipment Effectiveness Performance (TEEP) so that the production process can proceed smoothly and the company's losses can be minimized

Based on the results of the calculation of OEE, all CNC machines have average value that falls below the standard Japan Institute of Plant Maintenance (JIPM), ie 85%. Of OEE measurement results can be measured also the total effectiveness of the engine performance in one year using the Total Equipment Effectiveness Performance (TEEP). The average value of each machine TEEP still lower that the average value lies between the machine TEEP 9:59% - 49.65%. To find the root cause of the problem of the low effectiveness of the machinery using Root Cause Analysis (RCA). With this method, it is known that the root of the cause of the low effectiveness of the machine because of maintenance activities that are not optimal and lack of spare parts inventory so very long in providing spare parts.

In planning for spare parts the company is still using the history data, which is based on the purchase of the previous period. In this study, spares planning will be based approach to poisson process. Spare part are distinguished as repairable and non repairable. Spare parts needs analysis focused on the sub-critical system. Then do the calculation for spares requirements planning based on Assurance Level for one year.

Key word : *Maintenance Management, Overall Effectiveness Equipment, Total Equipment Effectiveness Performance, Six Big Losses, Spare Part, Poisson process, Assurance Level, Root Cause Analysis*