

ABSTRACT

Machine is one of the most important elements for production process in manufacturing companies, because the failure machine can disturb the production process. X Company is a manufacturing company located in West Java, which manufactures heavy equipment, railroad equipment and marine equipment. One of the CNC machines used in the production process is the Toshiba MPE-2160, which is in the period 2017-2019 this machine has the highest value of failure. As an initial step to reduced losses caused by the machine failure, can be done by evaluating the machine condition. Evaluation of machine performance is done by measuring the effectiveness of the machine with the Overall Equipment Effectiveness (OEE) method. Based on the calculation result, the OEE value of the machine is 65.72% and this value still under the Japanese Institute of Plant Maintenance standard. The results of six big losses calculation show that the Reduced Speed Losses and Idling and Minor Stoppages are the main factors that most influence the OEE of the machine with percentage 37% and 32%. Therefore, an analysis is carried out with a causal diagram to determine the causes of reduced speed loss and idling and minor stoppages on the Toshiba MPE-2160 machine. To calculate the losses caused by availability losses, performance losses and quality losses on the Toshiba MPE-2160 in 2019, the Overall Cost of Equipment Loss (OECL) method is used with a total loss caused by Rp 878,696,623.41.

Keywords: OEE, OECL, Six Big Losses, Fishbone Diagram, Reduced Speed Loss, Idling and Minor Stoppages.