ABSTRACT

Agronesia Corp INKABA (Industri Karet Bandung) divison is the local government rubber industry in West Java. In producing rubber product must be needed high performace manufacturing machine to support the produstion procces. But if there is a machine that is damaged suddenly, then the machine performance will be decreased that resultin decreased the system and the production will be inhibitedand rsult in loss for the company.One of them occurs on a production line in Rubber Bellow. It is necessary to measure the machine performance with the Reliability, Availability and Maintainability Analysis (RAM Analysis)and for the bussines viewpoint should be considered with the Cost of Unreliability, to see how much cost that caused by RAM problems. The purpose of this research is to determine the value of performace reliability, determine the value of Plant Availability Factor (PAF), determine the value of the cost of unreliability and formulate performance improvement at Rubber Bellow line

Based on the calculation of RAM can be known that the system of Right & Left Rubber Bellow within 100 hours have reliability value 62% based on analytical approach and 30% based on a simulation approach. Top Rubber Bellow system the reliability value 67% based on analytical approach and 34% based on a simulation approach. Maintainability of the system has an average value 1-11 hours based analytical approach and 1-15 hours based simulation approach. The system operational availability value Right & Left Rubber Bellow is 97.94% based on the analytical approach, and 96.49% based on a simulation approach. Top Rubber bellows system operational availability value is 98.21% based on the analytical approach, and 96.84% based on a simulation approach. Value of availability inherent Right & Left Rubber Bellow system is 98.11% based on the analytical approach, and 96.49% based on a simulation approach. Inherent availability value of Top Rubber Bellows system is 99.59% based on the analytical approach, and 98.38% based on a simulation approach. Based on the calculation of Cost of Unreliability costs incurred Rp. 48,720,478 based on the corrective time by time and downtime is Rp.50.030.052. Thus obtained waste costs caused by the delay in the amount of corrective maintenance activities Rp.1.310.024, with a total of 79.890 hours are wasted for 2 years.

Based on the analysis results of the calculation of RAM Analysis and Cost of Unreliability (COUR). The opportunities to improve the performance of the machine can be done, such as by improving preventive maintenance program, increasing the amount of skill and increasing the number maintenance crew

Keyword *: Reliability, Availability, Maintainability, Plant Availability Factor, Cost of Unreliability*