

ABSTRACT

PT Sinkona Indonesia Lestari is a company engaged in the chemical industry. This company produces quinine salt and its derivatives for many industries, especially pharmaceuticals, beverages, and other chemical industries. In the production division of PT SIL, there are 3 processing division units in PT SIL, namely milling, processing, and alkaloid units. The author is placed on an alkaloids unit where there is a reactor, centrifuse, and pump engine. Based on data held by the engineering division PT SIL, a machine that has a high track record of the damage is a centrifuse machine. Critical components are chosen using two ways, namely using a risk matrix and pareto diagram. Critical components selected from centrifuse machine is vat belt B110, contactor TOR LRD 21, and contactor LCD1D32M7. This research uses the Risk Based Maintenance (RBM) and Bayesian Network (BN) method because it aims to find out the value of the risk received by the company and reduce the risk of system failure when carrying out its functions, by optimizing engine maintenance. The result of data collection and processing carried out, then the percentage of failure is obtained based on MTTF data from vat belt B110, contactor TOR LRD 21, and contactor LCD1D32M7 were 92%, 90%, and 89%. While the risk obtained by the company is 1,19% with a risk of Rp 1.544.702.478. The proposal given is the maintenance time interval every 2200 hours with a risk percentage of 0,99% and risk free of Rp 1.285.163.144.

Keywords: Risk Based Maintenance, Bayesian Network, Risk Matrix, Maintenance Time Intervals, Maintenance Plan