

ABSTRACT

PT. PERTAMINA (Persero) Unit Produksi Pelumas Jakarta (UPPJ) is one of the lubricant production units which located in North Jakarta. there are several types of lubricating oil produced, including lubricants oil for automotive, industrial, hydraulic, and gears/transmission. UPPJ need to ensure that all of facilities which used for production are working properly, so that all of production activities can work well and controlled. One of working activity to facilitate of production process is machine maintainance which carried out by engineer. Production Floor owned by UPPJ which are Lube Oil Blending Plant I (LOBP-I), Lube Oil Blending Plant II (LOBP-II) and Grease Plant. LOBP I, which becomes the object of this research is the production floor that produce lubricants that are packed in lithos or plastic bottle with kind of size 0.8, 1, 4, 5 and 10 liters and pail packaging with a size of 20 liters and a bulk. In the production process of lubricating, filling station is the end of station in manufacturing process of lubricant before dispatching to the finished goods warehouse. At this station there are four filling machines which are distinguished by type and size of the packed grease. The greatest amount of failure occurred in Alwid A. If Alwid A are fail, then the filling process will stop and the companies will be risked losing the opportunity to produce as much as 7000 liters of oil every hour. That will also cause some other risks, such as an increase in maintenance costs of failure machines, decrease machines performance, the danger of worker safety and the environment around the machine, and employee work hours that must be added to achieve the production target, thus necessary to determine the optimal treatment time using the Risk Based Maintenance (RBM) method.

Risk Based Maintenance (RBM) method, aims to reduce all overall risk that may occur because of unexpected failures when the machines operates. Based on six criteria critical systems, obtained seven critical components in the filling machine Alwid A. Each of risk value by components failure on this machine is worth more than the limit acceptance criteria. In this research, acceptance criteria used for Rp. 30,000,000.00. This research resulted in optimal time interval for treatment by combine acceptance criteria, efficiency the total cost of maintenance and effectiveness of the reliability of components. The resulting time is 96 hours for the pneumatic valve, 43 hours for cylinder of water , 91 minutes for the motor, 81 hours for the capper head, 70 hours for the lens, 69 hours for the chiller, and 53 hours for the galvo.

Key words: maintenance management, RBM, preventive maintenance