

ABSTRACT

Warranty is basically needed as long as every company runs either the maintenance periodically or company orders a latest machine. The activity of maintenance should be held to maintain the activity of production process in every company. Furthermore, warranty is very necessary to provide the brief quality assurance of product where it is recently purchased or after maintenance is recently finished. PT Pertamina (persero) Refinery Unit VI Balongan is state-government company which operates in refining crude oil to be fuel such as premium, pertamax, pertamax plus, diesel, pertamina dex and cerosine. PT Pertamina RU VI Balongan is able to produce 125.000 barrels per day. In operating the process of fuel production, PT Pertamina (persero) needs few machines. Residue Pump 12-P-101 is one of machine which PT Pertamina (persero) uses for its production process. Besides, maintenance is necessary applied after maintenance to guarantee the quality of machine's performance. Unfortunately, warranty policy in PT Pertamina was not determined by company itself but it was determined by the machine provider company. This warranty was not considered with the characteristic of the machine. Residue pump 12-P-101 is one of machine that fail frequently. Residue pump 12-P-101 failed operating 37 times in last five years and some of failures occurred before warranty period ended. There are 26 failures occurred at critical part of 12-P-101, that is rotor. Machine provider company only provided the warranty in 500 hours. In the basis on the result of MTBF and MTTR value, it could be concluded that the optimal warranty should be 2125.67 hours and the machine needs 14 days to be repaired. Hence, engine provider company should arrange latest warranty contract which is adjusted to the value of MTBF and MTTR as the basis on maintenance duration.

Keywords— Warranty, Quality Assurance, mean time between failure, mean time to repair, critical part, and maintenance