

INTISARI

Penerapan *breakdown maintenance* di PT PP Presisi Tbk. masih belum optimal, dibuktikan dengan tingginya frekuensi kerusakan pada unit *excavator*. Frekuensi kerusakan yang tinggi memiliki pengaruh terhadap efektivitas dan keandalan unit. Tentunya, unit yang sering mengalami kerusakan memiliki tingkat efektivitas dan keandalan yang rendah. Pada penelitian ini, komponen *hydraulic pump* memiliki frekuensi kerusakan paling tinggi. Oleh sebab itu, penulis memberikan usulan *preventive maintenance* (PM) untuk menguji dan membandingkan hasil berdasarkan efektivitas dan keandalan. Penelitian ini bertujuan untuk mengetahui tingkat keandalan dan efektivitas penerapan PM. Metode yang digunakan pada penelitian ini yaitu perhitungan *overall equipment effectiveness* (OEE) dan distribusi Weibull. Data yang digunakan merupakan data penggantian komponen *hydraulic pump* dan data *operation time* unit. Objek penelitian dilakukan terhadap dua unit *excavator* HE 044 (non PM) dan HE 056 (PM). Hasil penelitian menunjukkan bahwa didapatkan nilai OEE unit HE 056 (PM) adalah 67,3% sedangkan nilai OEE unit HE 044 (non PM) adalah 54,1% sehingga dapat disimpulkan bahwa unit HE 056 yang menerapkan PM lebih efektif dibanding unit HE 044 yang tidak menerapkan PM berdasarkan nilai OEE. Selain itu, dari hasil perhitungan nilai keandalan unit HE 056 memiliki rata-rata nilai keandalan yang lebih tinggi dibanding unit HE 044 dalam waktu yang sama.

Kata Kunci: *Preventive Maintenance*, Keandalan, Distribusi Weibull, Pompa hidrolik

ABSTRACT

The implementation of breakdown maintenance at PT PP Presisi Tbk. is still not optimal, as evidenced by the high frequency of damage to excavator units. The high frequency of damage has an impact on the effectiveness and reliability of the unit. Obviously, units that often breakdown have a low level of effectiveness and reliability. In this study, the hydraulic pump component has the highest frequency of failure. Therefore, the author proposes preventive maintenance (PM) to test and compare the results based on effectiveness and reliability. This research aims to know the level of reliability and effectiveness of PM implementation. The method used in this research is the calculation of overall equipment effectiveness (OEE) and Weibull distribution. The data used is hydraulic pump component replacement data and unit operation time data. The research was done on two excavator units HE 044 (non PM) and HE 056 (PM). The results showed that the OEE value of the HE 056 (PM) unit was 67.3% while the OEE value of the HE 044 (non PM) unit was 54.1% so that it could be concluded that the HE 056 unit that implemented PM was more effective than the HE 044 unit that did not implement PM based on the OEE value. In addition, from the calculation of the reliability value, the HE 056 unit has a higher average reliability value than the HE 044 unit in the same time.

Keyword: Preventive maintenance, Reliability, Weibull Distribution, Hydraulic pump