ABSTRAK

Mesin beroperasi secara terus menerus menyebabkan menurunnya tingkat kehandalan peralatan serta menyebabkan sering terjadinya breakdown dan downtime yang tinggi pada komponen-kompnennya terutama pada pipa steam. Tujuaan dari penelitian ini adalah untuk meminimalisir dan untuk mengetahui jadwal Preventive Maintenance pada mesin Heater Kernel yang efektif dan mengetahui sejauh mana Preventive Maintenance pada mesin Heater Kernel dengan metode Mean Time Between Failure (MTBF) dan Mean Time To Repair (MTTR) dapat membantu mengurangi Breakdown dan downtime. Maka perlu adanya sistem penjadwalan perawatan yang baik guna mencegah terjadinya kerusakan mesin. Mean Time Between Failure (MTBF) dan Mean Time to Repair (MTTR) adalah salah satu metode sebagai acuan untuk menetapkan jadwal perawatan yang efektif. Oleh karena itu, diperlukannya tindakan preventive maintenance agar dapat meningkatkan kinerja dari perusahaan, Dari hasil analisa didapatkan nilai Mean Time Between Failure (MTBF) 18.830 menit, yang mana hasil perhitungan ini didapat dari menghitung waktu mesin selesai diperbaiki sampai mesin mengalami kerusakan kembali dan Mean Time to Repair (MTTR) 257 menit, yang dihasilkan dari perhitungan mekanik mulai memperbaiki mesin sampai mekanik selesai memerbaiki mesin. Perubahan penjadwalan preventive maintenance dapat dilakukan dengan interval waktu 2 minggu sekali untuk aktivitas pada mesin Heater Kernel. Hasil penerapan tindakan preventive maintenance rata-rata 79,80% sehingga mesin mampu bekerja secara optimal.

Kata kunci : Mean Time Between Failure (MTBF), Mean Time To Repair (MTTR), Preventive Maintenance.

ABSTRACT

The continuous operation of the machine causes a decrease in the level of equipment reliability and causes frequent breakdowns and high downtime in its components, especially in the steam pipeline. The purpose of this research is to minimize and to find out the effective Preventive Maintenance schedule on Heater Kernel machines and to find out to what extent Preventive Maintenance on Heater Kernel machines with the Mean Time Between Failure (MTBF) and Mean Time To Repair (MTTR) methods can help reduce Breakdown and downtimes. So it is necessary to have a good maintenance scheduling system to prevent machine damage. Mean Time Between Failure (MTBF) and Mean Time to Repair (MTTR) are methods as a reference for establishing an effective maintenance schedule. Therefore, preventive maintenance measures are needed in order to improve the performance of the company. From the analysis results, the Mean Time Between Failure (MTBF) value is 18,830 minutes, which the results of this calculation are obtained from calculating the time the machine has been repaired until the machine is damaged again and the Mean Time to Repair (MTTR) 257 minutes, resulting from the calculation of the mechanic starting to repair the machine until the mechanic finishes repairing the machine. Changes to the preventive maintenance schedule can be made at intervals of once every 2 weeks for activities on the Heater Kernel machine. The results of implementing preventive maintenance measures averaged 79.80% so that the machine was able to work optimally.

Keywords : Mean Time Between Failure (MTBF), Mean Time To Repair (MTTR), Preventive Maintenance.