

Abstract

This research is an application of the condition based maintenance technique to reduce machine breakdown problem of a case study company, the carbon black manufactures. The result from operation indicates that the Mixer, Screw feeder and Purge Gas Blower had a low availability due to break down. This study implemented the condition based maintenance technique by measuring the machine vibration to protect the machine break down. Three scenarios which are measuring 4 times per week, 3 times per week, and 2 times per week, were tested. The result from the experiment shows that the machine vibration should be measured 3 times per week. This improvement can detect the problem before breakdown economically. It can increase Machine Availability from 93.37 to 98.02 percents per month and Mean Time Between Failures (MTBF) from 415.56 to 599.67 hours per month. In addition, it can reduce Mean Time To Repair (MTTR) from 26.02 to 8.33 hours per month and Average Loss Cost per month from 9,617,204 to 1,604,433 baht per month.