

**IMPLEMENTATION OF PREDICTIVE MAINTENANCE IN
THE LUBRICATION SYSTEM BASED ON THE VIBRATION
ANALYSIS OF CATERPILLAR 3512B UNIT 15 PLTD
BENGKALIS**

Student : Ari Kuswara
NIM : 2204161078
Advisor : Imran,S.Pd.,MT

ABSTRACT

Caterpillar 3512b engine is a machine that is used as a driving force, where one of which functions as an electric generator driving. IN PLTD Bengkulu uses a caterpillar 3512b diesel engine as the driving force for the generator to supply electricity on the island of Bengkulu. This diesel engine has decreased performance in the lubrication system. The application of predictive maintenance to predict failures that occur in components that may cause failure of the lubrication system. It was found that critical lubrication components were the main priority which caused errors in the lubrication system, causing interference with the caterpillar 3517b diesel engine. The results of the oil pump vibration, the lowest vibration at low pressure in the direction of the Vertical Horizontal and Axial axis is 3.9 cm / sec and the highest vibration value in the direction of the Vertical Horizontal and Axial radial axes is 3.75 cm / s. The lowest vibration value load is in the direction of the axis axis, namely 3.39 cm / s and the highest vibration value is in the direction of the normal and vertical axis vibrations 4.36 cm / s. The peak pressure in the horizontal axis is 4.40 cm / s in 1 minute and the highest vibration value in the vertical axis is 4.6 cm / s.

Keywords: *caterpillar 3512b diesel engine, lubrication, predictive maintenance, vibration*