ABSTRACK

CV Hartono Jaya is a manufacturing company engaged in the procurement of industrial equipment. The problem faced by the company is the high level of damage to the engine that occurred with damage 132 times on lathe-2 during the 2016-2018. Based on these problems, research is needed to evaluate the reliability, availability and maintainability of the lathe-2 machine. By using the method of Reliability, Availability, Maintainability (RAM) analysis and Safety, it will be obtained the value of reliability, availability, maintainability and safety in the form of Safety Integriy Level (SIL). Based on the calculation of the method of RAM Analysis and Safety with the modeling of Reliability Block Diagram and an analytical approach, obtained the Reliability system of the lathe-2 with a period of 8 – 160 hours obtained the result on t = 8 hours is 98.45% and T = 160 hours by 66.65%. The timeframe for the engine opportunity to return to the best perfroma is 9 hours. The inherent availability value of lathe-2 is 99.53% and operational availability of 99.92%. The Safety integrity level of lathe-2 is at level 1. Leading indicators and lagging indicators on lathe-2 have achieved the key performance indicators.

Keywords: Maintenance, Reliability Availability and Maintainability (RAM) Analysis, Key Performance Indicator, Safety, Safety Integrity Level (SIL)