ABSTRACT

PT ABC is a manufacturing company that is also a State-Owned Enterprise (SOE) participating in producing heavy equipment consisting of marine equipment, generating facilities and transportation. PT ABC specifically in January 2016 began producing heavy equipment excavators named Excava 200 for non-military or civilian purposes. One of the heavy equipment production machines, Huron which is the NC Universal Knee Type Milling engine has the highest frequency of damage. This is due to damage to the Carbon Brush and Fuse components on the Feed Change Control and immediate replacement must be made so that the engine can function as it should. Therefore the research uses Reliability Centered Spares (RCS) to calculate the amount of spare parts that must be provided to avoid stock outs or over stock. Based on the calculation of RCS using poisson process by taking into account external factors such as operator skill (OPS), crew maintenance skills (MCSK), pollution (POL), temperature (TEMP), and dust (DUST), it is found that in the next year the number of Carbon Brush component is 8 units and the Fuse is 8 units. This is supported by the results of the calculation of the Economic Order Quantity (EOQ) and reorder point, known that the Carbon Brush component must be ordered as many as 6 units when inventory components touch the number 1 units, while the Fuse must be ordered as many as 7 units when the stock component is invoiced number 1 units. Thus stock out and over stock can be avoided.

Keywords: Spare Parts, Poisson Process, Economic Order Quantity, Reorder Point, Reliability Centered Spares