

## **ABSTRACT**

*Production activities that occur in a company is influenced by several factors one of the engine performance. PT Perkebunan Nusantara VIII is a company that produces orthodox black tea leaves. The Vibro machine is a machine operating in a sorting room used in the process of separating the tea particles by shape, size, density, and fiber content. The Vibro engine has a considerable history of damage in the sorting room so that proper maintenance policy is required to avoid any damage that occurs during the operation of this machine. This research uses RPN (Risk Priority Number) to determine sub system and critical component of Vibro machine. In addition, to determine the maintenance policy of Vibro engine used Reliability Centered Maintenance (RCM) and Reliability Centered Spares (RCS) method which has output in overcoming the determination of time interval of maintenance of a system and spare part supply policy on system using Poisson Process technique. Based on data processing done, frame and as joint components selected as critical components with RPN value of each component is 384 and 378. Based on the processing of RCM method, the type of appropriate maintenance activity is scheduled restoration and discard task with interval maintenance time is 1.64 months And 4 months. In addition, RCS method processing determines the type of repair of frame components and as joints respectively are repairable and non-repairable. Poisson process calculations show that as joint requires 11 spare parts for the next 12 months.*

***Keywords: Vibro Machine, RPN, Reliability Centered Maintenance, Reliability Centered Spares, Proposed Maintenance Task, Poisson Process***