

## **ABSTRACT**

*PT. Dwi Indah is a manufacture company that produces various plastics and papers processing. Plastic Division is the main division in the company's main production areas. PT. Dwi Indah is now implementing corrective and preventive maintenances on machines in the Plastic Division, but it is still not optimal because in the current state of the production process still be found bottlenecks that occur because of machine failures. Any downtime that occurs on every machine has a different impact on production systems and processes. The biggest impact happened when casterline machine's failure occurred. Impacts that happened because of casterline's failure is the production process will be stopped because the other machines need to process the work in process that produces by casterline machine. The company is also known to apply Spare Parts Management (SPM) which is not optimal, judging from the number of machines that did not operate for long period of time due to lack of spare parts. This will result a longer machine downtime due to long waiting time for spare parts.*

*In this research, conducted spare parts management (SPM) using Reliability Centred Spares (RCS) and Inventory Analysis. RCSmethod is the basis for determining the critical components on the machine. Furthermore, Inventory Analysis method in this research use to determine the policy and the cost of inventory. By using the RCSmethode, obtained 5 critical components on the machine Casterline. Furthermore in the inventory analysis phase, obtained the optimal economic order quantity (EOQ) and the reorder point (ROP) for every critical component. From these calculations obtained the total cost of inventory for critical component that must be provided by the company amounted to Rp 194.645.588.*