OPTIMIZATION OF MAINTENACE INTERVAL AND REPLACEMENT SCHEDULE FOR THE CRITICAL COMPONENTS IN ORDER TO MINIMIZE TOTAL COST OF PRODUCTION AND GET PROFIT
(STUDY CASE ON THE SYSTEM ROLING MILL IN PT JAYA PARI STEEL Tbk. SURABAYA)

Student Name: LAILY ULFIYAH
NRP: 2105 100 019
Department: Mechanical Engineering
Advisor: Ir. Sudiyono K. MSc, PhD

Abstract
PT. Jaya Pari Steel Tbk Surabaya is a company which has produce plate of steel. One of system on PT Jaya Pari Steel is RollingMill system. The failure out of routine maintenance can reduce machines reliability in that system.

The research started with the selection of examined rolling mill and critical components. Whereas for the critical components, the selection is based on the highest score of RPN in FMEA table. From the chosen rolling mill and critical components, the schedule of optimum preventive maintenance and replacement based on the maintenance cost and damage cost will be arranged.

The research focused on rolling mill system. Whereas seven the critical components, included are work roll, backup rolll, screw down, feed roll chain, mill motor, feed roll and nozzle spray mill. The result is preventive maintenance schedule in average for the critical components of rolling mill machine with 7 days in the first schedule type of PM and 18 days in the second schedule type of PM. Whereas the interval replacement for other critical components are about 11 days for backup roll, 10 days for work roll, 23 days for screw down, 21 days for feed roll chain, 21 days for feed roll, 46 days for mill motor and 19 days for nozzle spray mill.

Keywords: Reliability, critical components, preventive replacement, failure replacement.