

## ABSTRACT

PT WIL is one of the companies engaged in the textile industry. One of the machines used by Jet-Dyeing machines. In the observation from March to October 2017, the production capacity of the machine did not reach the target in March, June, July, August and September 2017 due to high downtime due to the lack of effective preventive engine policies. Jet dyeing machines have electrical and mechanical systems, with mechanical focus on observation. Mechanical systems are composed of valve subsystems, driving reels, nozzle valves, heat exchangers and circulation pumps. In mechanics, 3 subsystems with the highest critical level are valves, heat exchangers and driving reels. The three subsystems become input for the RCM method so that the task determination is in accordance with the characteristics of its failure, to get the optimal maintenance interval time and minimize maintenance costs. The results of RCM obtained from the previous mechanical seal proposal policy have an interval of 4 months to 8 months, the overall implementation maintenance proposal cost is Rp. 443,301,850. The initial cost of maintaining this jet-dyeing machine was around Rp. 650,372,775. RCS calculation is done to determine the needs of the number of spare parts of the selected sub-system in the period of 1 year of calculation. For 71 mechanical seal components, 26 cylinder valves, 78 teflons, 96 packing valves, 16 bearings, 10 driving reel cylinders, 27 mechanical seal driving reels, 51 packing bodies and 11 glass sites.

Keywords: Risk Matrix, Preventive Maintenance, Reliability Centered Maintenance (RCM), Reliability Centered Spares (RCS), and spare parts