ABSTRACT

The main factory of PT Sanbe Farma located on Cimareme III Industrial road is a manufacturing industry in the pharmaceutical field that produces the main product is infusion. There are three machines used to produce infusion products, namely Automatic Filling R125 Shinva engine, Automatic Filling R125A Plumat and Automatic Filling R124 Plumat. Among the three machines, the Automatic Filling R125 Shinva engine that suffered the most damage in the past year as many as 184 damage. Due to the high frequency damage problem, better maintenance action is required and a tool that can improve the maintenance policy is required to reduce the frequency of damage to the Automatic Filling R125 Shinva engine. Therefore in this study will raise the engine Automatic Filling R125 Shinva as the object of research. In this research, the design of preventive maintenance policy using reliability centered maintenance (RCM) method, the output of this method is scheduling preventive maintenance and maintenance cost. In addition, this research will design the Internet of Things (IoT) system on Automatic Filling R125 Shinva engine, the goal is to be able to monitor the condition of critical components of Automatic Filling R125 Shinva Machine remotely using internet network. After the calculation using RCM method, we get new preventive maintenance policy that is 11 failure mode using policy schedule on condition task, 4 failure mode using policy schedule restoration task and 6 failure mode using discard task schedule policy. So by applying the maintenance policy is the cost required by the company for the maintenance of Rp25.472.476.889.40 where when compared with the maintenance cost being applied is Rp43.278.115.044,45. So it can be concluded if the company implements a new maintenance policy then the company will save the cost of Rp17.805.638.155.05. Then to simplify the maintenance activities is done system design of remote monitoring tool on components that support the work of one critical component selected. In this research, the design of remote temperature monitoring on the component of heat element in Contour Welding work station with the aim of maintaining the quality of plastic supplied from Contour Welding work station so that the critical component in Film Transport work station can operate normally without damage.

Keywords: Maintenance Policy, Preventive Maintenance Policy, Reliability Centered Maintenance (RCM), Internet of Things, Critical Components.