

ABSTRACT

PT Dharma Precision Parts is manufacturing company that produces metal components from machining process, one of the product is stopper valve. Due to increasing in competition and demand, the company must be able to decrease the process time to fulfill the demand. The process time of existing system is around 9.92 seconds/part. The way that company use to decrease process time is by modifying Bench Lathe SD-32A machine which used for stopper valve chamfering process by applying automation technology. Applying automation technology in the company will get some advantages such as reducing process time, increasing production capacity and product quality. Implementation of automation system needs a good planning and consideration to function expected well and to prevent system redesign.

This research focused on User Requirement Specification (URS) design which contains a collection of information needed to design the automation systems in the industrial manufacture. URS design consists of process description, the description of the flow of electricity connected with each equipment, and control philosophy that allows the end user to understand the determined basic control system. Based on the research conducted conclude that the design of URS for stopper valve chamfering process on Bench Lathe SD-32A machine successfully implemented and the new process time is around 5 seconds/parts. The results consist of the explanation of process description, electrical diagrams, and control philosophy.

Keywords : user requirement specification, process description, electrical diagram, control philosophy