ABSTRACT

Indonesian Aerospace is the aerospace industry first and only one in Indonesia and in Southeast Asia. As a big manufacturing company, Indonesian Aerospace has many diverse production processes. One process is a surface treatment process, a process of dyeing the parts in a tub filled with air to the chemical solution to make it more resistant to corrosion. One of the sub-processes in the surface treatment is a chemical milling.

The problems that arise in the process of chemical milling is the process is still done by operator from monitoring the operation of the crane and the temperature in the tanks that used for the process. There are many conditions workstation chemical liquid that dangerous to the health and safety of the operator. The design of automation systems in chemical milling process is done so that the dyeing process runs automatically, controlled, and integrated, so the operator is not in a good workstation crane and move it to monitor the temperature. In applicability, will be making the PLC program that will be integrated into a mini-plant and acts as a controller over the mini palnt. Mini plant serves as a simulation of a chemical milling process is automated and integrated.

Based on the research conducted, it can be concluded bahawa design automation system has been successfully carried out so that the whole process can be done simultaneously, controlled, and integrated. The automation system is very useful when used for workstation that has dangerous condition, which requires controlling processes, and more flexible in terms of development do PLC programming.

Keywords: Automation, PLC, PLC Programing, Mini Plant, Chemical Milling.