

Consolidated Pulpit Project

JNE Automation's scope of work involved modifying the Tube Mill automation system to accommodate the installation of a new pulpit combining the controls of two separate stations in the mill. The pulpit did not replace the two stations; instead the stations were mirrored, allowing an operator to control the process from either the pulpit or the local stations. The two mirrored stations were the High Frequency Welder station (Mill) and the Flying Saw station. Each local station has a control desk consisting of pushbuttons and indicator lamps as well as an Allen Bradley PanelView 1400e HMI. The new Mill and Flying Saw control desks were mirrored separately and the two PanelView 1400e's were mirrored using one AB PanelView Plus 1250 terminal in the new pulpit.

PLC Changes

The project required signals to and from the existing local desks and signals to and from the PanelViews to be mirrored in the PLC code. The mirroring required code in three processors to be modified to ensure that the new and existing desks controlled the process properly. The existing processors were AB Control Logix 5000 and the PLC code was modified using RS Logix 5000 Enterprise software. The new desks were connected to an existing ControlNet network using Flex IO racks, ControlNet adapters (1794-ACN15/C) and ControlNet bridges (1756-CNB/B). New Flex IO modules, the 1794-IB16/A 16 point 24V DC Input and the 1794-OA16/A 120V AC output, were added to a rack to accommodate the new inputs and outputs. Two racks were added, one for the mirrored Mill controls and one for the mirrored Flying Saw controls.

HMI Changes

The two AB PanelView 1400e stations running PanelBuilder software were mirrored in the new pulpit using one PanelView Plus 1250 running RSVIEW Enterprise Machine Edition (ME). Using the conversion tool supplied with RSVIEW ME, the old PanelBuilder 1400e screens were imported into the ME environment. The conversion process was approximate and therefore required changes to most of the screens and menu systems that were included in the old terminals. Communication with the PLC was achieved via a ControlNet Adapter Module (2711P-RN15S) attached to the HMI using the 1789-A17 Virtual Chassis. New programs are downloaded to the PanelView Plus 1250 using ControlNet and RS Linx Enterprise.

continued on back page



Tube Mill

Consolidated Pulpit Project

JNE Automation was responsible for:

- Engineering design
- Hardware specifications and procurement
- Creation and modification of electrical schematics
- HMI programming (using RSVIEW Enterprise ME)
- PLC programming (using RSLogix5000)
- Network configuration (using RSNetwork for ControlNet)
- System commissioning

