HINZ
A Rockwell Automation Company

Saskfor MacMillan
Press Loader / Unloader Control Upgrade

The Client:

Saskfor MacMillan operates an Oriented Strand Board (OSB) plant at Hudson Bay Saskatchewan. Saskfor MacMillan (SFM) markets products to Central North America and also operates a plywood mill and sawmill in Hudson Bay and Carrot River respectively.

The Requirement:

The Hudson Bay OSB plant consists of two press lines and supporting front end starting with the log receiving. Line Two press operates on a 24-hour production schedule with a weekly maintenance shutdown and produces 4' x 16' strand board ranging in thickness from ¼" to ½". The press can produce approximately 250 loads in a 12-hour shift. The press operator interface consisted of a pushbutton indicating light console and relay panel. Hinz was contracted by Saskfor MacMillan to design a PLC-based control system to replace this relay-based system. Installation of the PLC system and removal of the existing relay-based components took place during the 1998 annual one week shutdown. The press was retrofitted with Temposonic linear measuring probes and modified hydraulic control components. A computer graphics interface terminal replaced most of the pushbuttons and lights. Part II of the system upgrade required replacement of the relay-based controls for the press loader and unloader systems during the 1999 one week shutdown. Most of the pushbuttons and lights were removed and those functions installed in the graphics interface terminal. The remaining console pushbuttons and lights were wired to Block I/O.

The Design Solution:

Hinz provided complete project management and controls/electrical engineering services. This included specifications, procurement of all controls hardware and software, Human Machine Interface (HMI) configuration, PLC programming, documentation, on-site commissioning and installation supervision. The existing Allen-Bradley PLC 5/30 and RSView HMI were used in conjunction with Allen-Bradley Block I/O for field devices. This provided a seamless, economical solution with minimal field wiring. The design required a complete understanding of the existing press cycle, controls and operation. Hinz conducted a thorough review of all available existing client drawings and press operating cycle information to become familiar with the press loader and unloader characteristics. The complete design allowed for incorporation of additional plant areas in the future using the PLC 5/30 and Allen-Bradley block I/O. In addition, the design required installation of new hardware into the confined space of the existing plant. Some construction was completed prior to the annual one week shutdown, with the actual changeover completed during the shutdown. Operator training was successfully carried out in the period immediately before and after start-up. This training ensured that the start-up following the upgrade proceeded without delay.

The new system allows the operator to make changes to press, loader and unloader operating parameters quickly. It also allows changes to parameters not previously accessible. The RSView graphics system includes the ability to trend system parameters to assist in cycle optimization and quality control . The graphics system also provides a clean method of adding or changing the operator controls without being restricted by physical space to incorporate a light or pushbutton. Time for wiring and drawing updates to reflect modifications is no longer required.

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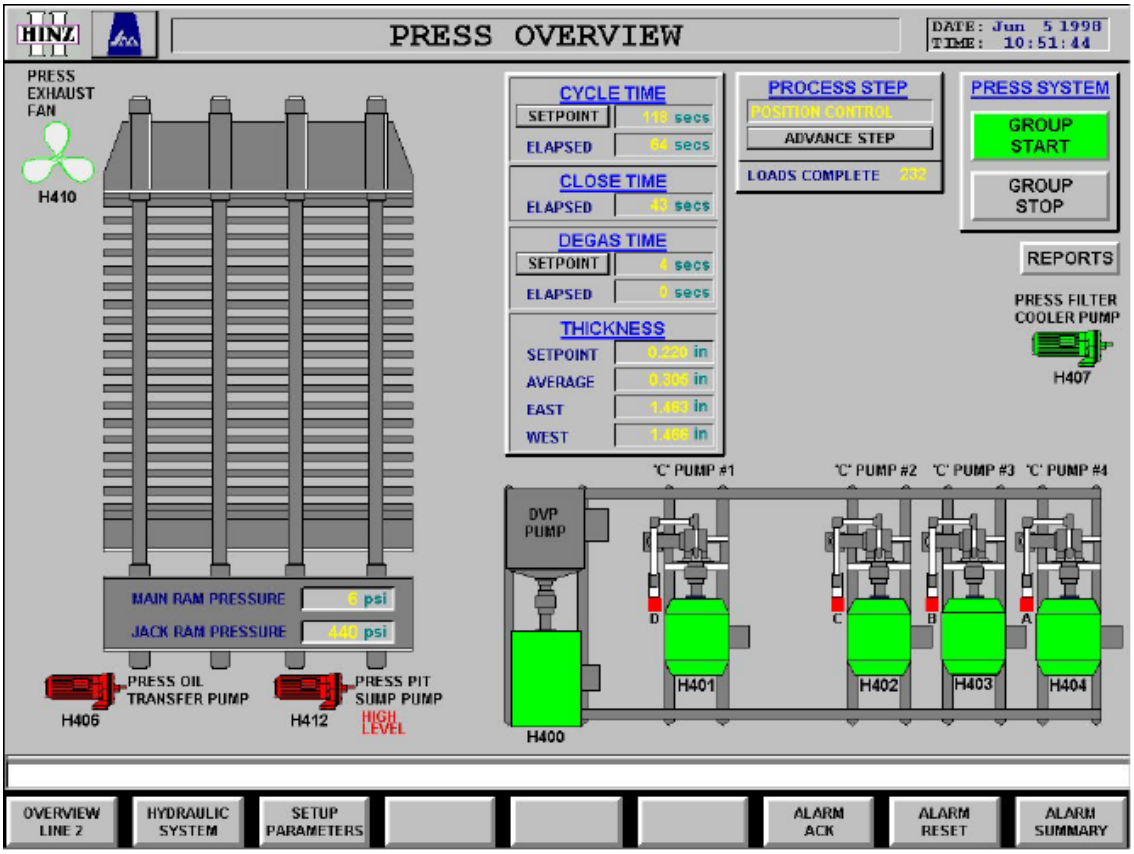

System Specifications:

- 1 Allen-Bradley PLC 5
- 1 Allen-Bradley data highway
- 1 RSView station 480 tags
- System control for 16 process & auxiliary motors
- 7 Allen-Bradley block I/O modules

For further information or to contact a Hinz office near you, please check our website at:

www.hinz.com

"Automation and Power Specialists"

Phase I Completed: 1988
Phase II Completed: 1999

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