



A Rockwell Automation Company

Weyerhaeuser OSB 2000 Plant

The Client:

Initiated as a Saskfor MacMillan joint venture, MacMillan Bloedel Ltd. purchased all Saskfor shares and assumed 100% control of the project. In 1999 Weyerhaeuser acquired ownership of MacMillan Bloedel Ltd. and all projects in progress.

Weyerhaeuser Company is an international forest products company celebrating its 100th anniversary. Their business is forest management with pulp & paper and

wood products manufacturing facilities. Weyerhaeuser Company Ltd is a subsidiary of Weyerhaeuser Company in Federal Way, WA. Weyerhaeuser's Canadian operations began in 1965 and has grown to become Canada's largest forest products company, spanning nine provinces and employing over 11,500 people.

The Requirement:

Hinz was procured to provide electrical/controls engineering services for the construction and commissioning of a Greenfield orientated strand board plant. The new plant is designed to produce 570 million square feet of 3/8" OSB per year. The process consists of six log ponds, three cambium ring debarking lines, three stranders, two green bins, two hot oil energy systems, two drum dryers, two rotary screens, four dry bins, one wax and resin system, four drum blenders, one OSB forming line, press & finishing line, and one plant wide pneumatic dust system.

Hinz' scope of work involved project management of all aspects of the electrical/controls, as well as hardware and

software design. Included within the scope was coordination of equipment vendors who were supplying their own PLC program and HMI graphic interface.

The hardware design included power distribution, electrical, lighting, and control systems for all areas of the plant.

Software design included the control system configuration, PLC programming and HMI graphics for the green end/waste PLC, dryer and screening PLC, EFB, blending/wax and resin PLC, and coordination of vendor PLC programs.

The Design Solution:

Hinz provided complete electrical and controls engineering services. The design phase included working with the client to select major electrical and controls hardware, power and electrical design, instrumentation design, specification and supervision of control systems provided by others, HMI configuration, programming of PLC systems, and complete documentation. The construction phase included installation and commissioning supervision.

The control system configuration incorporated an individual PLC for each process area. Plant control for each area was achieved using Allen-Bradley PLC ControlLogix processors. Allen-Bradley PLC 5/20C processors were used for applications requiring linear positioning modules. Communication between PLC and HMI was achieved using an Ethernet network. A dedicated ControlNet network was used for PLC to PLC communication. Dedicated ControlNet networks were used for PLC to I/O racks and PanelView communication.

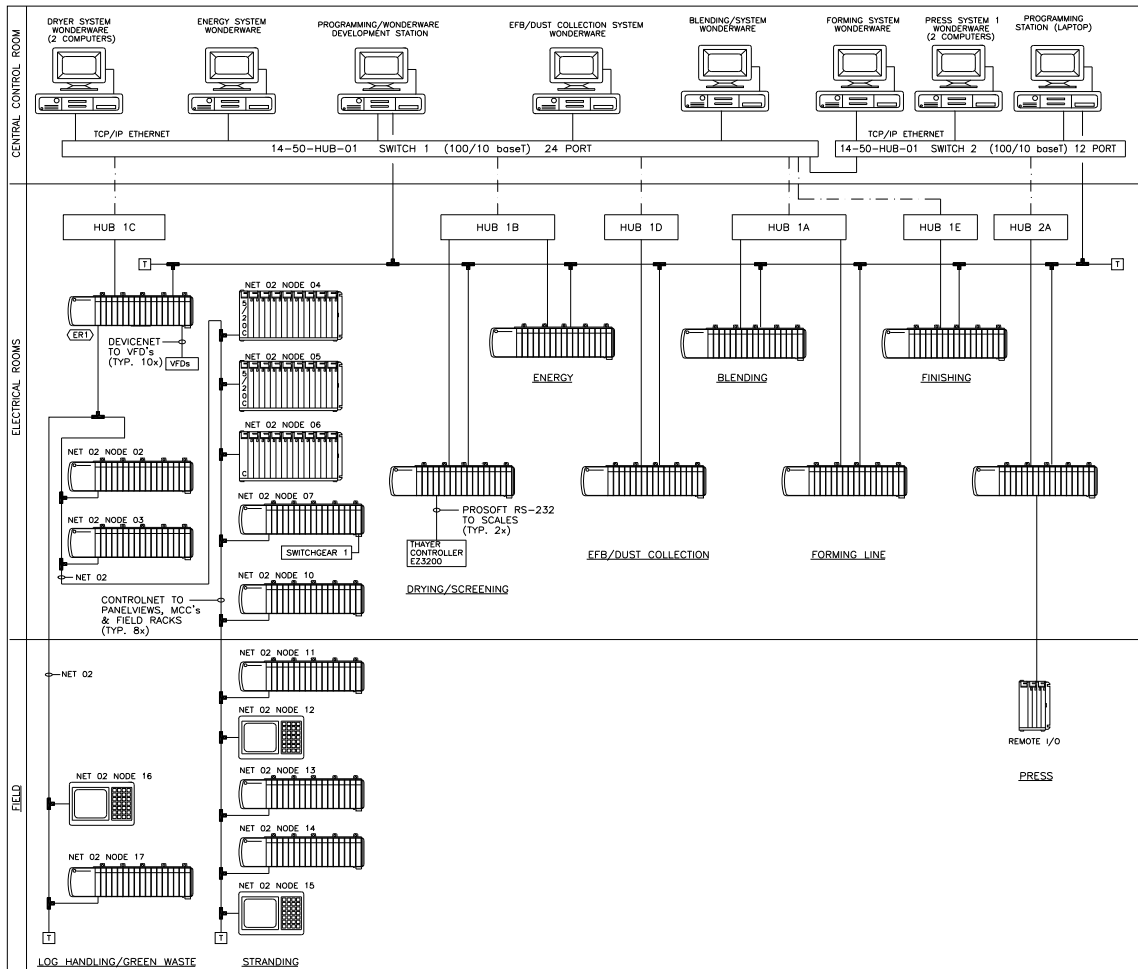
Dedicated DeviceNet networks were used to interface VFD I/O to the PLC via MCC I/O racks. The Human Machine Interface (HMI) is based on Wonderware's InTouch software for Windows. In addition to the HMI stations in the control rooms, Allen-Bradley PanelViews with touch screens are used in the field. Plant operations can be monitored and controlled from one central control room that is located facing the Siempelkamp press.

Weyerhaeuser's OSB 2000 plant has over 830 motors with a connected horsepower of 24,000. MCC layouts were structured according to process areas to facilitate fast checkout and startup of all components as construction was completed. This approach allowed commissioning to proceed as construction of each area was completed. All motor control I/O were installed and pre-wired within the MCCs by the MCC manufacturer to minimize errors and expedite the installation process. Field I/O were enclosed in remote I/O cabinets and distributed throughout the plant as required.



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System Specifications:

- 8 Allen-Bradley PLC ControlLogix processors
- 3 Allen-Bradley PLC 5/20C processors
- 7 Allen-Bradley PanelView 900 HMIs
- 6 Allen-Bradley PanelView 1000 HMIs
- 3 Allen-Bradley PanelView 1400E HMIs
- 67 Allen-Bradley 17 slot I/O racks
- 11 Wonderware HMI stations
- Ethernet LAN for HMI to PLC interface
- ControlNet LAN for PLC to I/O and PanelView interface
- ControlNet LAN for PLC to PLC interface
- DeviceNet LAN for PLC to VFD I/O interface

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

www.hinz.com