



A Rockwell Automation Company

Grant Forest Products, Allendale, SC Allendale Greenfield OSB Plant Control System Design

The Client:

Established in 1981, Grant Forest Products is an industry leader in the production of Oriented Strand Board (OSB) panels in varying lengths and thickness. They also manufacture OSB specialty products such as webstock, rim board, and oversized panels. Grant Forest Products is a rapidly expanding corporation supported by corporate headquarters located in Toronto, Ontario and

administrative headquarters based in Earlton, Ontario. Sales and marketing teams are situated in Mississauga, Ontario, while manufacturing operations are located in Englehart, Ontario, Timmins, Ontario, High Level, Alberta, Allendale, South Carolina and Clarendon, South Carolina.

The Requirement:

Grant Forest Products selected HinZ as their electrical and controls consulting partner. HinZ was responsible for providing the electrical and controls engineering services for the construction and commissioning of a green field Orientated Strand Board plant in Allendale, SC. The new plant is designed to produce 900 million square feet of 3/8" OSB per year.

HinZ' scope of work involved the project management of all aspects of the electrical and controls system, and the hardware and software design. Included within the scope was the co-ordination of equipment vendors who were supplying their own PLC programs and HMI graphics.

HinZ was responsible for detailed design and programming of the Wood room, Dryer infeed, Dryer outfeed, and Wax & Resin systems. The Wood room included log handling, debarkers, waste handling equipment, and conveyors up to the green bins. The Dryer infeed area includes the green bins, screens, and dryer infeed conveyors. The Dryer outfeed area includes the dryer outfeed conveyors, recycle conveyors, and dry bins. The Wax & Resin system includes truck and rail car unloading, storage, mixing and metering of wax, MDI resin, powdered resin, PF resin, and release agent.

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 control system configuration incorporated an individual PLC for each process area. Plant control for each region was achieved using Allen-Bradley ControlLogix processors. Ethernet communications was used for PLC to HMI and from PLC to the Management Information System (MIS). This was accomplished using a plant-wide one gigabit fiber-optic backbone. A dedicated ControlNet network was used for PLC to PLC

communication. Each PLC system had a ControlNet network that was used for remote I/O communications. A dedicated DeviceNet network was designed for the PLC system to interface with VFDs and motor starters in the MCCs.

The Human Machine Interface (HMI) is based on Wonderware's InTouch software for Windows. The plant was controlled and monitored from a central control room.

The construction phase included dedicated onsite construction supervision and commissioning services.

