HINZ
A Rockwell Automation Company

Weyerhaeuser - Drayton Valley, AB
Green End Modifications

The Client:

Weyerhaeuser Company is an international forest products company celebrating over 100 years in business. Their business is forest management with pulp & paper and wood products manufacturing facilities. Weyerhaeuser Company 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 responsible for providing electrical/controls engineering services for the Green End modification project at Weyerhaeuser's Drayton Valley plant. The plant has two infeed lines - one for the core layer and one for the surface layer. The green end modification project involved replacing the existing flakers with CAE stranders. Since the plant needed to continue operating during the installation phase of the project, it was decided to install the stranders in a new building and feed the strands back into the existing green bins. To accommodate this requirement, the existing power system had to be modified and a new control system had to be designed.

The Design Solution:

Hinz provided complete electrical and controls engineering services for this modification project.

The power engineering included the design of a new 25 kV, 1500kVA substation and a 600V power distribution system. After reviewing the power load flow for the plant, it was determined that two new 1200 HP strander motors could be added to the existing medium voltage MCC. Weyerhaeuser wanted a redundant means of starting the strander motors. The starting of the strander motors was accomplished by using two Allen-Bradley SMC Soft Starters operating in parallel with each other. During normal operation, each strander motor was started by it own SMC soft starter. If one of the SMC soft starters were to fail, then by closing a tie switch the other SMC soft starter could be used to start the strander motor. The sequencing of the SMC soft starters and bypass contactors was performed by the PLC system.

The MCCs were located in a new electrical room. The motor control was achieved by using DeviceNet to communicate with the starters. The use of DeviceNet eliminated the need for discrete I/O wiring to the starters. All motors in the Green End were equipped with local disconnect switches. These switches allow maintenance and operating personnel to lock out power to the equipment without having to return to the MCCs. All local disconnect switches have an auxiliary contact which is monitored by the PLC as a permissive for motor starting.

The new Green End control system consisted of three PLC systems. Each strander was equipped with a PLC system and the infeed and outfeed of the stranders was controlled by the third PLC system. The green end equipment was controlled from a new operator cab. The operator used both a standard control console and HMI to operate the Green End equipment. Both the control console and the HMI operator screens were designed by Hinz. All three PLCs and the HMI were connected to the plant-wide Ethernet network.

In addition to providing detailed design and programming, Hinz was responsible for providing off-site construction support and commissioning supervision.

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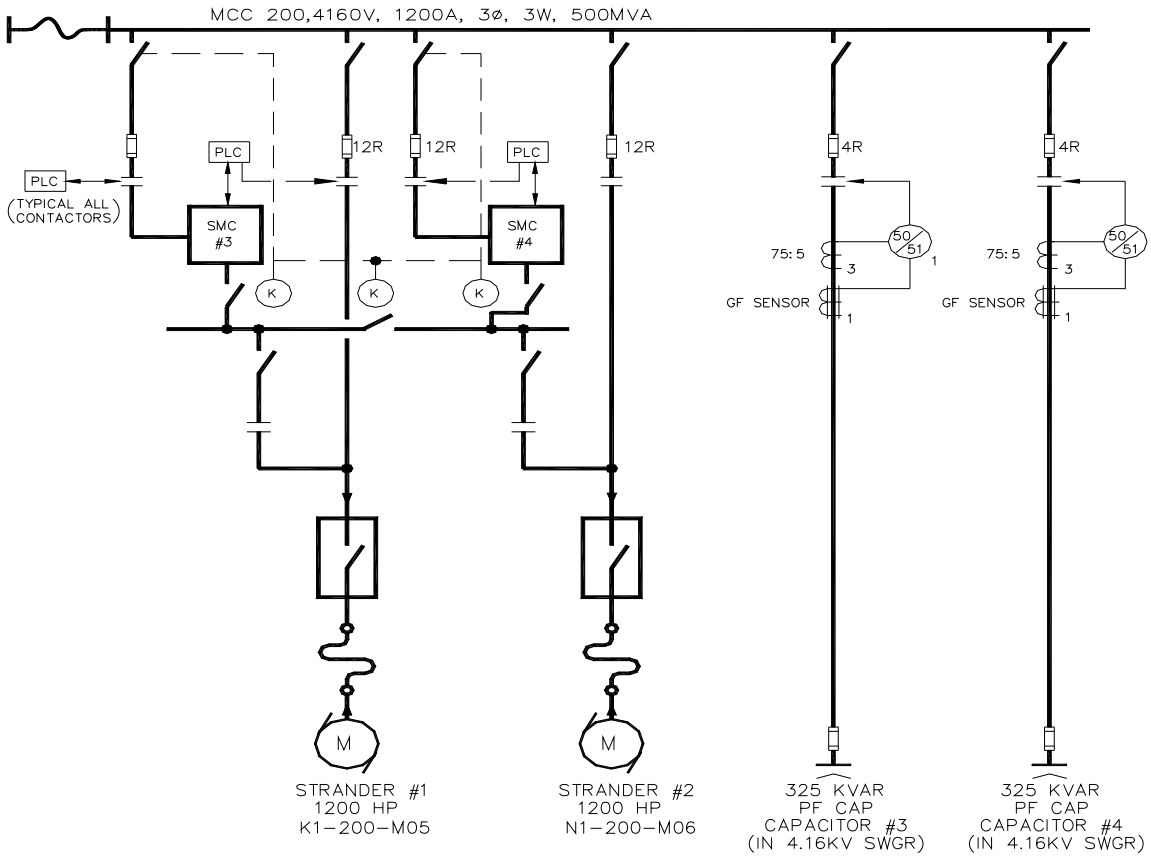

System Specifications:

- 3 Allen-Bradley PLC 5 systems
- Ethernet communication system
- DeviceNet communication system
- Wonderware Graphics System
- 25kV/600V power distribution system
- Redundant medium voltage soft start system

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

www.hinz.com