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EMERSON AND CELULOSA ARAUCO COMMISSION WORLD'S LARGEST "SMART" PULP MILL IN CHILE

Digital integration helps $850M mill meet environmental, safety, and production goals, and demanding startup schedule

AUSTIN, TEXAS (June 18, 2008) -- Emerson Process Management has helped Celulosa Arauco strengthen its world class pulp supply capability by digitally integrating the world's largest "smart" pulping mill built by the industry leader at Nueva Aldea in central Chile. Digital automation allows mill personnel to readily access more data, allowing for easier calibration and greater mill-wide visibility, efficiency, and management.

Combining its expertise and PlantWeb® architecture, Emerson digitally automated the entire Smart mill, resulting in an unusually fast startup while meeting Arauco's critical goals of environmental protection and personnel safety, and quality production.

"We automated the whole plant from the moment we feed the logs into the chipper until a bale of pulp emerges at the end," said Alejandro Erazo, Distributed Control Systems Project Engineer for Arauco. "Our objective was to use the most modern technology in the market and use it in the best way possible, to make each part of the project easier, from engineering to configuration to startup up the plant."

"We chose PlantWeb digital architecture because we wanted the most modern technology available for our plant to speed up the calibration and startup phases," added Erazo. "The entire plant was optimized from wood feed at the front end to pulp shipment at the back end which substantially reduces costs and startup times. The calibration time of each instrument was reduced by one-third and configuring motor control centers for 30 motors now takes half a day or so rather than two weeks to a month as was the case without intelligent motor controls. Valve configuration time has also been substantially reduced. On previous projects we typically spent half a day trying to move the valve to the chosen setpoint. Today all we have to do is push a button and it self-calibrates."

“Despite the huge scope of this project, it was completed on time largely due to the excellent support we received from Emerson,” said Gunars Luks Guzman, Mill Manager of the Nueva Aldea mill. “We were successful in achieving all of our objectives. The plant is designed to turn out 856,000 tons of Kraft pulp a year. In only six months after startup, we had reached 93.8 percent of that target, on a monthly basis, and have since ramped up to full production according to plan. I'm proud to have been part of this project.”

Celulosa Arauco is one of the world’s largest forestry companies measured by plantation area and production of Kraft wood pulp and sawn timber and wood panels. The pulp mill construction project represents an approximate US$850 million capital investment.

Emerson automation and service experts from Argentina and Chile worked with Celulosa Arauco to provide a completely integrated Smart Mill solution built around PlantWeb digital architecture, including DeltaV™ systems, and FOUNDATION™ fieldbus networking. Emerson wrote a Functional Description Specification (FDS) for managing the automation of the project. Arauco delivered the FDS to vendors who returned their digital configuration data for entry into the DeltaV digital automation system. This proved valuable in efficiently integrating the work of a number of suppliers.

Training, simulation, startup and commissioning were managed through Emerson and Arauco teamwork. Pre-startup off-line testing using complete high fidelity simulation of the operating pulp mill by the DeltaV system enabled validation of operations and configuration across all vendor equipment, avoiding trouble at startup.

“DeltaV provides a communications architecture that allows us to interconnect devices of many different manufacturers and protocols,” said Mauricio Quintana, Systems Supervisor at the Nueva Aldea mill. “This was a tremendous assistance in the project and will allow us to integrate new devices in the future. Emerson’s AMS® Suite helps us to make accurate diagnoses of instrument faults. It helps our maintenance staff be much more productive.”

Digital technology enabled centralized access to all mill data, while wireless networks enabled technicians to roam the mill doing local testing, all contributing to flexibility and reduction in commissioning time.

“Celulosa Arauco has taken advantage of the latest digital technology to achieve the highest operating performance mill with the best possible environmental performance, safety and throughput,” said Leo Rodriquez, president of Emerson Latin America. “The success of this project demonstrates that building your facility with digital automation architecture will deliver unprecedented project benefits including lower risk, shorter project cycle, and lower total installed cost plus provide a platform for benchmark setting operational performance.”

The PlantWeb solution integrates 3300 FOUNDATION fieldbus devices including Rosemount® flow, level, pressure and temperature instruments, and Fisher® valves with Fisher FIELDVUE® digital valve controllers. Predictive diagnostics information is collected from intelligent devices throughout the mill by AMS Suite which delivers alarms and data to operations and maintenance personnel.

The PlantWeb solution controls more than 2100 Rockwell E3 and E3+ motor control centers (MCCs) through DeviceNet, more than 3500 discrete remote I/O points through Profibus DP, and more than 340 variable speed drives though Profibus DP. It also connects with more than 15 programmable logic controllers (PLCs) through Profibus DP and special analyzers through Modbus.

Emerson's PlantWeb digital plant architecture delivers operational excellence in plants by networking smart devices throughout, enabling optimum control while continuously gathering diagnostics data that is used for asset optimization, including predictive maintenance. Personnel use the data to correct equipment and process issues before they can interrupt production.

About Emerson Process Management

Emerson Process Management (www.emersonprocess.com), an Emerson business, is a leader in helping businesses automate their production, processing and distribution in the chemical, oil and gas, refining, pulp and paper, power, water and wastewater treatment, food and beverage, pharmaceutical and other industries. The company combines superior products and technology with industry-specific engineering, consulting, project management and maintenance services. Its brands include PlantWeb®, DeltaV™, Fisher®, Micro Motion®, Rosemount®, Daniel®, Ovation®, and AMS® Suite.

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