STABLE LOG POSITION

By **David Abbott**

Langdale's Omega Tru-Position system on double length infeed yields less variation, recovery increase.

VALDOSTA, Ga.

When Langdale Forest Products rebuilt its sawmill in 1998, the company decided to go with a double length infeed feeding a canter/quad. "Everyone was doing DLIs then and we thought it was a good idea," according to Vice President and General Manager Jim Langdale. "We were not as excited about its effectiveness as we thought we would be. It served its purpose but we never thought we made as good a cant as we should."

The major problem, they eventually determined, was presenting the log to the sharp chain in the right position. "We would rotate a log, put it on the DLI and it would have 55 ft. to travel," Langdale explains. "That is where we never felt like we got a real good job through the canter. With all the old DLIs you get some movement or rotation from the original scan as the log travels."

A few years later, enter Russell Roberson of Omega Solutions, Inc. (OSI), who had been in the mill many times over a period of several years and in time suggested an idea he thought could be the solution. "We liked the concept because it was not 24 linear positioners and a lot of moving parts," Langdale says. Langdale was one of the first mills to which Roberson presented his concept, back in 2003.

The system was Omega's Tru-Position In-feed Conversion. It was retrofitted into the existing double length infeed but it can be installed standalone. The project, which was completed in October 2008, included adding 100 ft. of sharp chain and a Comact quad-log turner.

The goals of the project, Roberson says, were to modify the existing rotation scan conveyer, install a new quad-roll log turner, lock-down the DLI and extend the sharp chain back through the DLI, add the Tru-Position infeed centering mechanism, replace the old canter with a new Omega Solutions (OSI) slant canter, remove one set of quad-bands to only have twin bands, install new variable speed drives on the canter heads, and install a new OSI sharp chain drive and new OSI sharp chain. Recovery and production were both increased, at a cost of $1 million.

Roberson explains: "In the old system the logs were scanned on the DLI chain and held in place with press-rolls while being scanned and were then transferred

onto the sharp chain and the sawing solution was really just the best guess of where they thought the log would be when it got to the sawing area." He adds that DLIs work well enough on straight logs but not as well on bowed or knotty logs. Unfortunately, many pine logs in the South fit the latter description.

In the new setup, the log travels through the rotation scanner and is turned by the quad roll log turner to the horns down position, centering most of the mass of the log in the vertical plane for downstream curve-sawing. Once the log is centered it is dogged onto the sharp chain. The log is then scanned, and the sawing solution for the canter-twin is made. Dogged on the sharp chain, the log does not move as it travels from the scan position to the actual sawing position entering the canter-twin.

"Before, with the dual roll log turner, we had a poor hand-off from the scan conveyer to the log turner and then to the DLI. We really were able to clean up this process," says project engineer Matt Rogers. "We had two hand-off points before, and both of them were not very good. Now the transfer is really good, and it is scanned on the sharp chain and the log doesn't have a chance to go anywhere." Company principals say they have been very satisfied with increased production and cant quality.

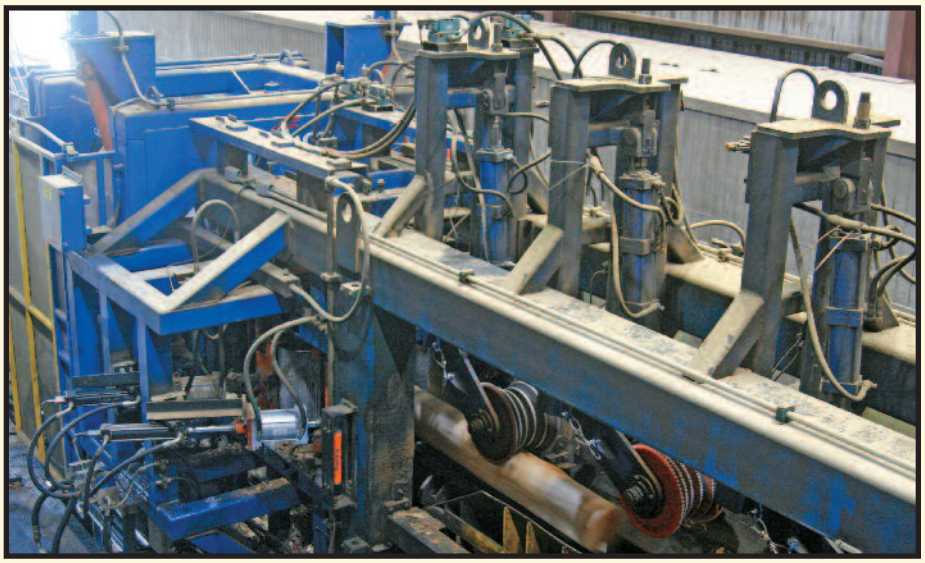
"The system makes the best sawing solution from where the log is truly sitting," Roberson says.

The project was installed over a one-week shut down and did not change any scanning, optimization or target kerfs. All recovery increases were attributed to new mechanical equipment and options that it provided for control improvements.

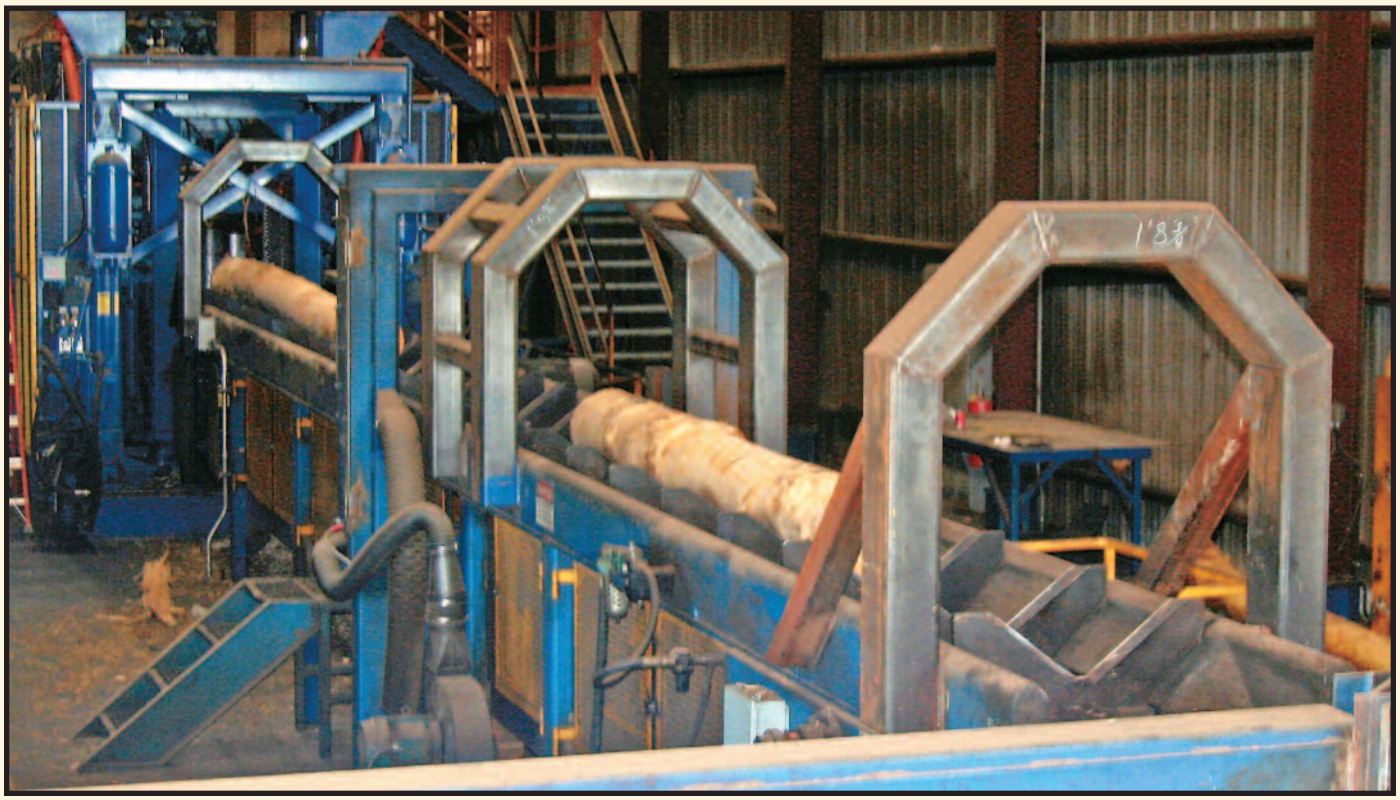
MANY FACES

The Langdale Company, which dates to 1894, is vastly diversified. Under its umbrella are 22 businesses ranging from a bank to a motel and a golf course. Langdale Forest Products is just one subsidiary under the Langdale banner.

Its solid wood products division includes production of lumber, poles and fence posts, as well as TLC Building Components. Pole mills are located in Valdosta and Chauncey. The engineered wood division includes OSB and MDF through its subsidiaries Langboard MDF and TLC Moldings, including an OSB plant in Quitman and an MDF plant and molding facility in Willacoochee. Langdale has industrial treating plants in Valdosta and Sweetwater, Tenn., primarily



The OSI Tru-Position Infeed Conversion has increased recovery at the DLI.



According to project engineer Matt Rogers, new Comact quad-log turner also plays a pivotal role.

Cants head to Newnes curve sawing gang.

treating poles. Another subsidiary, Industrial Cutting Tools, also in Valdosta but not at the mill site, handles sharpening of all Langdale's round saws, planer knives, chipper knives, pole mill knives and OSB flaker knives (band saws are maintained in the mill filing room, but that is managed by ICT personnel). ICT also takes in contract filing work for other sawmills, shavings companies and paper mills, using primarily Vollmer equipment.

The Langdale Co. and Langdale Industries are headquartered in Valdosta at the same facility that serves as the central base for Langdale Forest Products. The company has had a mill on that site since the 1940s.

The lumber division produces primarily dimension softwood, making 2x4-2x12 and 1x4-1x6 in 8-20 ft. lengths. In its best year it turned out 142MMBF, but in the recession has currently limited production to two 32-hour weekly shifts (64 hours total). On the normal 80-hour week (two shifts), Langdale believes the mill has improved to a 150MMBF capacity.

Jim's brother, Wesley Langdale, is President of Langdale Co., while Jim is Vice President of Langdale Forest Products, which encompasses the solid and engineered wood products divisions as well as TLC Building Components, Industrial Cutting Tools and a relatively new R&D project, Composite Materials Technology, to service the engineered pole market.

MILL FLOW

A 155 ft. radius Fulghum crane, added in 1994, unloads, sorts and stacks logs, feeding two Nicholson A5 debarkers at the beginning of a two-line debarking/bucking system. Bucking is done with a six-saw shifting trimmer-type system made by PSI, with bucking optimization developed in-house. After bucking to length, logs on both sides flow through MDI metal detectors.

The primary sawing line, now equipped with the OSI Tru-Position infeed and sharp chain, is for larger logs, while the secondary line is for smaller logs. Log diameter break between the two processing lines is 10 in. max butt diameter on small logs. On the large line, logs flow through the new OSI canter-twin, sending sideboards to the edger while transferring cants to a Coe Newnes/McGehee transverse curve sawing gang.

The small log line uses a four-sided Chip-N-Saw canter on a single length infeed. Cants flow to a Cone 6 in. VSA (vertical single arbor). Both lines land on a common lumber deck and feed through the same trimmer optimizer, then to a Coe Newnes/McGehee transverse 3-saw edger with reman head. The trimmer, edger, sorter and stacker are all by Newnes.

Langdale has a KDS direct-fired green sawdust dry kiln built in 2007 and six steam kilns, three for the lumber side and three for the pole side. Kiln cycle averages 18-22 hours depending on time of year. Total kiln capacity is 150MMBF on the lumber side. A BMW boiler powers the kilns, which utilize McBurney controls and a PPC Industries electrostatic precipitator that handles emissions. All dust bins are by US Metal Works. Two Fulghum chippers handle residuals. Chips and shavings go to the Langdale-owned MDF and three local pulp companies. Sawdust is burned at the mill in the KDS kiln, and the balance is sold.

On the dry end, a planer mill with Newman 990 planer and CSMI trimmer/sorter/stacker lines was upgraded in 2002 with a Newnes linear high grader and Newnes shark fin board turning system and rotary lug loader. Packaging is done with a Samuel strapper.

BUSINESS

Langdale uses Volvo wheel loaders and Taylor forklifts with some old Cat rolling stock still in the mix as well. "We've been very pleased with the Volvo performance in wheel loaders," Langdale says. The company transports its products on Kenworth trucks with Cat engines—22 trucks for solid wood products and 10 for residuals. The primary market is treating plants and distributors in Georgia and Florida. Poles go to customers as far away domestically as Michigan and are exported, directly and indirectly, to customers in Africa, Asia and South America. Some lumber goes to the Caribbean and some engineered products to Turkey and the Ukraine. Most exporting is handled through another subsidiary, Langdale International.

"We think the biggest key to our longevity in the business is having substantial land holdings," Langdale says. He believes it has allowed the company to remain consistently competitive. Langdale estimates that the company's timberland holdings provide 30% of the supply for lumber and poles, and about half of its OSB supply requirements. The company utilizes a dozen or so contract loggers and employs five procurement foresters and three pole markers. Langdale also supplements its supply through public wood dealers.

At the sawmill, Langdale uses the Maximo software system to keep up with all maintenance and storeroom purchasing. Maximo sends the financial information into the general ledger. Joey Godwin is the maintenance superintendent. The 12-man maintenance crew works four days a week, on two shifts, Wednesday-Saturday. Filing room equipment includes Armstrong benches and sharpening equipment and a Simonds auto leveler.

IN-HOUSE ABILITY

"We have a pretty unique situation with the abilities we have in-house," Langdale says. "I don't know of many other mills that can accomplish the things we can do here." Project engineer Matt Rogers agrees. "It keeps us totally integrated where we don't hire a lot of outside contractors."

Langdale sports its own fabrication department on site, headed up by Ronny Lightsey, while Rogers oversees the vari-

ous projects that involve the fabrication shop. The fabrication department built all the substructure steel, chain and waste conveyor for the new sawmill, all the pole mill equipment, the dust conveyors and all associated substructure steel for the silo for the direct fired dry kilns. The fabrication shop also takes in some projects for sister companies. Langdale's electrical department also does a great deal of in-house work. The log bucking, double length infeed scanning and controls, Chip-n-Saw VSA line and all the pole and post mill controls were done in-house. John Lindsey is the electrical manager. "He's a very capable individual," Rogers says. Lindsey did all the wiring and controls when the current mill was built in 1998. He is a licensed electrical contractor and Lightsey is a licensed general contractor.

"We think when we general contract and manage our own job, we get a better product for less than or equal to the money you'd have to pay an outside contractor," Rogers says. "When you hire a general contractor, they get one shot at you and they are going to build it the way they want it. When we build it, we build it the way we want it. Our people know where every wire is and every hydraulic hose." For large projects, Langdale does hire extra help, but Langdale's own employees make the specifications.

Jim Langdale

Willie Alderman in control cab overlooking MDI metal detectors on primary line

There are 275 working at Langdale's plant in Valdosta, and 380 total employed in Langdale's forest products division, including the treating facilities. The Langdale Co. in total employs about 1,300. Some employees represent multi-generational family history with Langdale. For example, wood preserving superintendent Tom McCullough is the third generation of his family to work at Langdale. His grandfather fired the boiler and his father was also wood preserving superintendent.

"We like to think we have pretty good retention," Langdale says, noting dozens of employees who have been with the company 35 years or more. But he also points out that Valdosta is now a small metropolitan area, having grown up somewhat around the mill. As such, there is now more competition from other employers in the area. Normally turnover is only an issue at the lower end of the pay scale, but these days, it's a benefit for many people just to be working. "When the economy is toughest, the employees are the best," Langdale says. TP