Logging & Sawmilling Journal

Premium producer

After a three-year shutdown in response to poor lumber prices, the mill started producing lumber again in October 2012. The goal is to produce 240 million board feet of lumber annually. That's 20 per cent more production than prior to the sawmill closure, primarily because of capital investment in new scanning and optimizing equipment in the sawmill, as well as the new planer mill.

By Tony Kryzanowski

Canfor has not only reopened its Radium, B.C. dimension lumber sawmill—much to the delight of the local community—but it has also given it a solid future by investing $38.5 million in significant sawmill upgrades while constructing an entirely new planer mill.

The sawmill produces lumber in dimensions from 2 X 4 to 2 X 10 in lengths from 8' to 20'.

"Our focus will be on premium grades, including J- grades and machine stress rated (MSR) lumber," says new plant manager, Don Soderlund, who came to Radium from managing Canfor's oriented strandboard plant in Fort St. John.

Soderlund says production between the sawmill and planer mill is now much more balanced. Previously, the planer mill was operating on three shifts just to keep up. Now, the new planer mill operates on two shifts and its output keeps pace with the sawmill.

Canfor's goal is also to significantly reduce its manufacturing costs and to pull more high value products. It anticipates a gain in value uplift by having the ability to pull more premium grade lumber.

There has been a staffing reduction as part of the major capital upgrade at the site, which is part of several mill upgrades that have occurred at Canfor-owned facilities in B.C. and Alberta over the past two years.

Canfor has also now become the dominant forestry player in B.C.'s Columbia River Valley from Radium to Cranbrook, having also purchased Tembec's sawmills south of Radium in Canal Flats and Elko (in December, Canfor announced a $40 million upgrade for the Elko sawmill).

Soderlund says what spurred Canfor to reopen the Radium sawmill was the improved lumber market as well as what he described as some of the best wood fibre in the entire province of B.C. growing within the company's forest management area on either side of the valley.

"With the MSR and J-grade lumber that we sell and the high percentage of white wood here, it gives us a really strong presence in the marketplace with premium grades," says Soderlund.

Because the predominantly lodgepole pine, spruce, fir and balsam wood fibre basket grows with tight growth rings in this mountainous environment, it is very strong. Soderlund adds that the influence of the mountain pine beetle on the pine resource has largely been brought under control in the area, with less than 10 per cent of the wood basket impacted by the

Logging & Sawmilling Journal

beetle. This means that the sawmill is processing largely green wood as compared to areas in central B.C. where the wood basket has been devastated by the beetle.

The sawmill will consume about 850,000 cubic metres of spruce and pine annually. The Douglas fir is sent for processing to Canfor's Canal Flats sawmill. The Radium sawmill has adopted an entirely cut-to-length (CTL) log harvesting system, completing a transition that started prior to the sawmill's closure. Soderlund says it has meant a major change for Canfor's logging contractors, who must now process logs to 12', 16' and 20' lengths in the cutblock and sort them by diameter prior to delivery to the sawmill. Contractors have also been required to reconfigure their log haul trailers to transport CTL logs.

"Adopting the CTL system speeds up the processing at the front end of the mill, eliminates a big waste problem by not having to dispose of the trim ends and butt ends, and it eliminates a high maintenance area with the removal of our merchandizer and cutoff saw section," says Soderlund.

In addition to investments in both the sawmill and planer mill, Canfor has also installed a new biomass-based heating system. The sawmill now burns its wood residuals, delivering significant savings in energy costs through heating the thermal oil used in its dry kilns. It was previously using propane as its energy source. Constructing the new heating system has also allowed the sawmill to demolish its beehive burner.

While there have been a number of improvements in production equipment, there has also been a major change in how lumber production is scheduled. It's driven by a new marketing strategy that focuses on production to fill specific customer orders as much as possible. Soderlund explains that this production approach has been a learning experience for the sawmill's 145 employees, but he says they have embraced it. It's generally described as the 'pull' approach to marketing where the company identifies the customer's needs and plans its production back around those needs.

"This system certainly makes sure that you are managing all your processes," says Soderlund. "If you run into an issue where one product isn't running well, you can't just switch over to one that you know is going to run well. Or if you are not hitting your production targets, you can't call and say bring in the big wood like we always used to do. We need to stay on target and figure out what the issues are."

Soderlund says this marketing approach actually starts in the cutblock, with logging contractors provided with a plan to deliver a certain log profile in response to the sawmill's production plan.

On the staffing front, he says Canfor was able to attract about 71 per cent of its hourly employees back and 25 per cent of its salaried employees.

The entire $38.5 million project was constructed on a turnkey basis, with engineering and construction supplied by the BID Group of Companies. Nechako Construction Ltd. was the main mechanical contractor, Del-Tech Manufacturing installed the new heat energy system, and Milltron Electric was the main electrical contractor.

As part of Canfor's retooling of the Radium sawmill, it removed the entire log merchandizing hardware from the front end of the sawmill, with the shift to processing CTL logs. The sawmill has three production lines. The small log line processes logs under 8" diameter, the large log line processes logs 8" to 16" in diameter and the headrig line processes logs over 16".

Logging & Sawmilling Journal

Three Linden step feeders convey CTL logs destined for the large and small log lines into the sawmill. They are debarked using one of two Nicholson A5 debarkers and placed into three sort decks—two for the large line and one for the small line.

Medium diameter logs are processed through an Optimil double-length canter line equipped with twin bands. Cants proceed through a Newnes-McGeehee 10" curved gang machine. Porter Engineering provided an upgrade to the scanning equipment on the Optimil canter line.

Small diameter logs are broken down using a Comact DDM6 processing unit.

Another step feeder conveys the large diameter logs to the headrig line. They are debarked using a Salem debarker and then processed through the headrig. Cants are processed through a Ukiah 10" gang. Boards from all three lines can be diverted to an existing USNR edger as needed before converging on the single sort line. USNR supplied upgraded scanning equipment and a new charging table for the edger as part of this project.

"Through the summer, our maintenance folks did a lot of work rebuilding our breakdown equipment, getting ready for start up," says Soderlund.

From the sawmill sorting line, the lumber proceeds through an unscrambler provided by Nechako Construction, an existing trim line, into a 60 bin sorter, and then stacked in preparation for drying using the new SEC Sawmill Equipment stacker.

The lumber is dried in one of four thermal oil dry kilns. Canfor added a kiln that it salvaged and reconditioned from its Rustad sawmill in Prince George.

About $23 million of the total capital investment went for the new planer mill.

Dried lumber is fed into the planer mill using a high-speed tilt hoist supplied by SEC, which includes their automated strip recovery system. Individual sticks proceed through a high-speed, Gilbert planer, landing on two slow-down belts, and converging on a landing deck. All components from the landing deck to a sorter near the outfeed were provided by Comact.

The landing deck conveys lumber to a surge pit. The surge pit and the lumber accumulated in it provides Canfor with the capability of continuing to operate the front end or the back end of the planer mill should either end need to temporarily slow or halt production.

From the surge pit, the planed lumber proceeds through an unscrambler and a lug loader before encountering several critically important components in the value capturing process. Those are the SEC A-Grader for machine stress rating and the Comact GradEx lumber grader, which is a totally machine-based, lumber grading system.

Following the GradEx grader, the lumber is processed through a trim line. Canfor has included a 'cut-in-two' option also supplied by Comact after the trim line, where the company can further merchandize longer sticks of planed lumber to capture extra value by cutting away sections so the remaining piece achieves a higher grade. Smaller pieces proceed to the 14' sorter and larger pieces proceed to the 20' sorter.

Logging & Sawmilling Journal

The lumber is then stacked, using two new stackers, one provided by SEC and one by Comact, and is prepared for shipping using two existing Signode strappers and paper wrap stations.

“I’m extremely impressed with the effort our employees have put in with the rebuild of the sawmill and the installation of the planer mill,” says Soderlund. “Start-up of the planer mill has been very successful and we are ahead of our plan and that’s really due to our employees’ work and embracing new technology. They want to make it successful and they’ve proven it.”

After a three-year shutdown, the Canfor mill in Radium, B.C. is back in business more than ever, thanks to a $38.5 million upgrade that will result in 20 per cent more lumber production, with a strong focus on premium grades.