Logging & Sawmilling Journal

Opening a door to new markets

Alberta sawmillers Boucher Bros. Lumber made a gut call in investing in a glulam and building package line, a move that will help the company diversify its operations--and open the door to some new markets.

By Tony Kryzanowski

Sometimes you need to give a decision a lot of thought, and other times you can just go with your gut instinct. Boucher Bros. Lumber went the second route with its $1.5 million investment in a glulam line at its dimension lumber sawmill near Nampa, Alberta.

But the Boucher Bros. sawmill is proposing going beyond using a portion of its kiln-dried softwood lumber to manufacture glulam--the family's strategy is to actually produce easy-to-assemble, post and beam shed, garage, cabin, and eventually, small home packages.

The manufacturing process starts with computer-generated building templates. Those templates will then be used to produce the beams and joinery patterns on the beams so that all the pieces fit together properly. The packages will be marketed under the name of "Nordic Pac."

This fulfills a long-held dream by sawmill owner Normand Boucher, and can only be described as a gutsy move given how so many other companies have pulled in the reins on capital spending, given current market conditions. However, it seems to be exactly what the Alberta government hopes other primary softwood lumber producers will consider doing. Alberta Sustainable Resource Development Minister Ted Morton made particular mention of the investment by Boucher Bros. Lumber at last year's annual Alberta Forest Products Association convention.

It's also another example of an established, independent Alberta-based sawmill making moves to both survive and diversify during this severe economic downturn. For example, Spray Lakes Sawmill in Cochrane has established a successful landscape amendment division called Top Spray, using bark from both its own operations and West Fraser's operations in Sundre.

"It's been in my mind for the past seven years," says Normand Boucher. "I wanted to put together a plant where we could manufacture something you could build without needing carpenters to make it all fit together."

Boucher is also hoping that the glulam line will start to create a new income stream by this spring, as the sawmill has already curtailed production. Designed to produce 50 million board feet per year, the sawmill was forced to lay off half its employees last spring, reducing production to 25 million board feet.

While the company's focus has been exclusively on the Canadian market for softwood lumber, there would be nothing stopping Boucher Bros. from shipping its glulam beams and building packages duty free to the United States because it is a value-added product.

Logging & Sawmilling Journal

The glulam line consists of three pieces of equipment. The first is a Trimwex glulam press, which was manufactured in Slovenia. The second is a planer, and the third is a Hundegger timber joinery machine. Hundegger is based in Germany, with its Canadian office located in Airdrie, Alberta.
Normand Boucher suggested the equipment line based on several visits to European technology shows and years of gathering information. The aim: have the sawmill put together a glulam and building package production line based on proven technology, as well as something they could afford.

The plan is to progress in a controlled manner along the learning curve so that when the company begins producing glulam and building packages on a commercial scale this spring, they will be confident they are delivering a quality product.

The initial focus is on building packages that do not require an engineer's stamp, but eventually they hope to reach a level where the packages they produce will meet building codes.

Several tests were conducted on an identical Hundegger timber joinery machine at the University of British Columbia. The unit was used to process timbers for two post and beam buildings that Boucher Bros. had designed. The university also provided valuable insight into post and beam construction, as they have a number of experts on staff. The manufactured components were then shipped to the Nampa sawmill.

The family held a barbecue and work bee this past fall to introduce its product to local individuals.

"In the space of two hours, they had assembled the entire building," says mill manager, Ricky Boucher. "These were individuals who previously had absolutely no experience putting these types of buildings together."

Normand Boucher is the first to admit that he is unsure what the market is like for glulam and building packages, but says he has a gut feeling that it will benefit the sawmill because of the scarcity and high price for solid timbers. Furthermore, Western Archrib in Edmonton is the only other company in the province producing glulam.

"We're not going to be manufacturing beams like Western Archrib at this time, but we're thinking that we have the wood here," says Boucher. "The current market for softwood lumber is no good, so let's invest $1.5 million and try to figure something else out." To some extent, he adds, Boucher Bros. will be creating its own market.

The new, expanded ownership group is solidly behind the production of this value-added product. It includes Ricky, Jason, Bertin, and Brian Boucher, all of whom are also longstanding employees of the sawmill.

"I'm really excited about getting into the production of glulam," says Ricky. "It's a good product, and we all know that it's hard to find a carpenter out there. We can make it easier for people to do it themselves. I would hope that we eventually get to a point where we are producing at least two building packages a day."

Ricky and sister, Julie, who is an electrical engineer, have committed themselves to learning how to manage the glulam division of the business. They have participated in training sessions held at UBC to gain a good understanding of the Hundegger's capabilities and the glulam production process in general.

Julie is heavily involved in putting together computer generated designs of actual post and beam buildings that will be

Logging & Sawmilling Journal

used as patterns, and Ricky is committed to learning the ropes concerning the manufacturing process itself. He says he wants to understand what the equipment is capable of doing without having to take someone else's word for it.

Given the level of automation provided by the timber joinery machine, the entire process can be accomplished with just a couple of workers. Based upon customer orders, the process will start at the Trimwex glulam press by manually stacking and applying glue to individual pieces of lumber, according to the recipe for a specific building package. Hydraulic pressure is then applied to the stacked lumber to produce glulam beams, which must remain on the press for a specified amount of time, depending on the type of glue used.

Several glulam beams can be manufactured at one time on the press, which measures 40' long and 48" high. Hydraulic pressure devices on the press slide along a beam so that they can be adjusted for different glulam beam lengths.

After the required amount of press time, the beams must cure. Then they will be processed through a planer to remove any glue stain or other minor defects. The beams are assembled at the Hundegger timber joinery machine, where according to the building template, individual beams are processed through the joinery machine. It automatically cuts the patterns needed on each beam so that the package will fit together.

The actual widths and lengths of individual glulam beams will vary depending on what's needed for each package. The press itself is limited to about a 10" width beam.

Some adjustments will be necessary in the sawmill line to produce the wane-free lumber that is required in the glulam production process. This can be accomplished in two ways. The first is simply to sort out the wane-free lumber that is produced during standard lumber production. The second is to actually focus a portion of the production schedule to manufacture only wane-free lumber.

The downside of this approach is that there is a loss of recovery. How much recovery loss occurs is still unknown, as the sawmill has yet to try that approach. However, Ricky Boucher says it is a relatively simple process to reprogram equipment along the sawmill line to produce wane-free lumber. The adjustments will be made primarily to the sawmill's HewSaw primary breakdown machine as well as at the edger.

The lumber will also have to be dried down to between nine and 15 per cent moisture content, as compared to 19 per cent for commodity dimension lumber, meaning about 10 extra hours in the dry kiln. The lumber will be planed before it is transported to the glulam building.

"The nicer your lumber, the less you have to do to your beam," says Normand, "and we really want to make nice beams."

He believes that Canadian primary softwood producers have to look at product alternatives to softwood lumber--he's concerned that the demand for lumber in future may not be as great as in the past. The industry is feeling all sorts of competitive pressures from a variety of different building materials in its traditional markets. Furthermore, he believes that the industry also needs to do more to seek out value-added opportunities, rather than simply shipping raw materials.