HITTING TARGETS
Millar Western rebuilds Fox Creek mill, favors return to good markets

TAKing Hold of a new venture
Pleasant River Pine more than doubles capacity with 3 new kilns, Kiln Boss controls

HIGHLIGHTING NEW DEVELOPMENTS
USNR announces revolutionary new products and enhancements
Bringing you more of what you need

When you visit industry events like major tradeshows, do you often discover unique new products? USNR is very proud of our history of continuous development, and we’ve got lots to show you when you visit us at the Timber Processing & Energy Expo taking place in Portland, Oregon from Oct. 17-19. We highlight some of these developments in this issue.

Millar Western Forest Products was faced with a dilemma when its Fox Creek, Alberta sawmill was lost to fire in 2008. After examining its options the company rebuilt the mill with new technology, and merged it with used assets it acquired to create a modern, high speed operation.

A new Eastern white pine lumber processing acquisition led the Brochu family of Maine to invest in new dry kilns to expand the capacity of the operation. After installing 3 USNR kilns and Kiln Boss controls, the company has a strong outlook for its future.

A redefined compact log line features a host of options and variations that will fit almost any application. This line operates at a consistent 600 fpm with any log size, and you can straight or curve saw.

A new feeding system will revolutionize the handling of boards at the planer. USNR introduces its TransLineator – the most flexible board feeding device you’ll find on the market.

Whether you attend the show or not, we’d love the opportunity to show you our latest developments. Give us a call and we’ll arrange a visit.

Sincerely,
Colleen Schonheiter
Editor
Just a short year after it acquired a lumber operation at Fox Creek, Alberta, Millar Western Forest Products Ltd. lost the sawmill to fire in August 2008. The company reviewed its options and despite economic uncertainty, announced in June 2010 that it would rebuild the facility.

Millar Western’s Fox Creek operation is the company’s third lumber operation, joining its counterparts at Whitecourt and Boyle, Alberta. Headquartered in Edmonton, Millar Western is family-owned and has been in business for over a century. With total annual production capacity of over 550 MMBF it is the largest Alberta-based producer of SPF dimension lumber.

The Fox Creek operation comprises a sawmill, planer mill and kilns. The new, post-fire sawmill has a planned annual capacity of 120 MMBF (double that of the old mill) and started up at the end of 2011. Equipment includes 3 debarkers, 2 primary lines with USNR optimization, USNR edger and trimmer lines, USNR 71-bin pusher lug sorter, and USNR high speed stacker. About 70% of the mill’s products are sold into the North American housing market, with the remainder shipped to industrial accounts domestically and overseas.

From the ground up
Stefan Demharter, Millar Western’s VP - Wood Products, related that the decision to rebuild the sawmill was based on 3 critical factors. The first was fiber supply, and the company was able to secure log supplies sufficient to make a solid case for rebuilding. The second was the insurance settlement process, and after a lengthy settlement review it was determined that it would be feasible to proceed. Stefan continued, “Thirdly, we had to be cognizant of the market economics going forward. Is the market going to be there to justify an investment over the longer term, and how bullish are we on the lumber market? Despite the fact that the fire at Fox Creek was followed by the global financial collapse and a long, deep trough in North American lumber markets, we were bullish on the business that we have been in for over 100 years, so we made the decision to rebuild.”

The only thing left standing in the sawmill after the fire was an older 41-bin sorter. Stefan said, “That became a reference point for the new mill modernization.” Earlier the company had acquired the assets of a closed mill located in Wapawekka, Saskatchewan, intending to use the equipment at its existing Alberta operations. With so much of the Fox Creek equipment lost in the fire it made sense to use

Rebuilding this mill after a fire was the right choice for this long-time, top Alberta lumber producer.
Teamwork made it happen and improved markets will make sure it’s a success.
as much of the acquired equipment as they could in rebuilding the Fox Creek mill.

The acquired equipment included a Newnes trimmer line comprising a 16’ multi-saw trimmer with optimization system, stacker and associated lumber handling components. Stefan related, “We moved it all to Fox Creek. We worked with the engineering staff from USNR’s Salmon Arm division to fit what we could into a new mill design.” He said that the Wapawekka trimmer optimization system was almost brand new and, with the exception of the J-bar sorter, they were able to reuse the complete trimmer line.

For sorting, they reused the existing 41 bins spared by the fire, added 30 new bins and a new pusher lug sorter top. The Wapawekka stacker was reused in the planer mill as the stacker for the prime sort line.

Vendor selection
The vendor selection process was relatively straightforward, as the company decided they wanted to mirror the lines from their Whitecourt operation. Stefan said, “We’ve always had very good experience with Newnes (now USNR) in the lumber handling side. Given that experience, and having 2 of our other operations with Newnes lumber handling lines, it made sense to do the same.” The selection of USNR for the optimized edger line was similar, given that with a Newnes system was also in place at the Boyle operation. The planer mill at Fox Creek was also all Newnes equipment installed in 2003, with the exception of the planer.

Edger line
The new edger line begins with a metering transfer feeding a radius back unscrambler. The scanner transfer is fitted with a flitch turner, actuated when the scanner identifies a board that is wane down. The SGII charger positioning table feeds boards to the guided 3-saw board edger fitted with top reman head. The tailer is a Flying Vee design that consists of two sets of sloped shifting wings controlled by linear positioners. The center board(s) drop down on a belt as they exit the edger, while tailings are directed to waste conveyors by the sloped shifting wings. This outfeed is particularly attractive where space is limited.

Stefan commented, “One thing that I’ve always noted is a lot of sins in the sawmill show up in the basement. With the old finger tailers you could lose boards that used to go to the chipper, and nobody would see that. With the Flying Vee tailer it’s all upstairs. You can actually see the edging process from the floor. It’s nice to be able to observe how well your edger is doing.”

The edger optimization system features the Newnes Sawmill Suite (NSS) platform. The scanner is outfitted with LPS3 and PV sensors to collect precise profile data, and the frame is designed to accept BioVision sensors in future, for sawmill visual grade scanning capability.

The performance of the edger line is all that Millar Western expected it would be. Tom Thompson, mill manager at Fox Creek, said, “It’s a hands-off process for our operators, and it keeps them out of the flow. We’re very impressed with the piece rates, and the quality of the lumber out of the machine.” Tom went on, “It’s running extremely well. We’ve actually detuned our edger a little bit; right now we’re running an average of about 30 pieces per minute, and we peak at up to 36.”

Trim line
The trimmer line was moved in its entirety from Saskatchewan. The reused unscrambler was significantly modified to incorporate a radius back head end and speed-up chains. The angled ending rollcase and lug loader backlog tables were new supply. The scanner infeed, scanner transfer and positioning transfer were all reused, with modifications to fit the new layout. The optimization system was reused, while the Multi-Track Fence was a new supply.

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Stefan explained that the trimmer had been designed to operate at 120 lugs per minute (lpm) and required a conversion to increase the speed to run at up to 160 lpm. The reused trimmer received modifications to the saw ladders to accommodate smaller diameter saws, and extended holddown shoes were installed to deflect badly bowed boards into the trimmer opening. At the outfeed of the trimmer, the mill opted for a new overhead pusher gate with smart diverters to be able to drop boards out during high speed operation.

A new 90° turn table is followed by a crossover roll transfer to change the lumber line ahead of the sorter. A new pusher lug sorter top diverts boards into the 41 existing (modified) and 30 new vertical sort bins. All bins were fitted with air operated diverter baffles to direct the lumber to one side or the other, and land straight in the bin.

A new radius back unscrambler fitted with speed-up chains feeds a new angled ending rollcase. The new low profile stacker features a boxing load mechanism and a secondary hoist that ensure evenly formed packages and near-continuous stacking operation. A new Slant Hopper Stick Placer system is fully automatic for both filling and placing sticks and lath on the lumber stack.

Stefan noted, “Their optimizers are pretty bullet-proof, and overall the trimmer line has given us good results.” Tom reiterated with, “The line runs well; we run about 90-92% lug fill operating at 158 lugs per minute.”

Process Controls
The process control system for the whole mill is based on the Allen-Bradley ControlLogix 5000 platform. The trim line incorporated a new WinTally V7 sorter management and reporting system. One feature also included was fence verification. It is designed to work with the WinTally system so that the actual fencing on individual boards can be seen as they scroll by on the WinTally board monitor screen. The verification system measures accurately to 0.1”.

Lineal High Grader (LHG)
Millar Western has an older, refurbished LHG at Whitecourt that is used to grade for profile measurements. The new unit at Fox Creek is a fully automated grading unit complete with vision, X-ray and laser technologies.

The LHG is designed for linear scanning directly in line with the planer. The system consists of feed frame, sensor frame, ID printer and reader, and computer system. The preferred configuration is to de-couple the frame from the planer using a bridge rollcase equal to the length of the longest product, and this is the layout chosen for Fox Creek. With this arrangement the system performance can be enhanced by eliminating any undesired interferences from the planer while scanning. If insufficient space is available for this type of installation, the LHG can be close-coupled to the planer. Board tracking is accomplished by printing an identification code on one or two (timber) faces. Once back in lugs the ID code and grade marks are read and transmitted to the optimizer for final solution then passed back to the PLC for implementation.

The company plans to incorporate MSR grading capability in future, and this will be accomplished within the same scan frame. Tom said, “We’re extremely pleased with the LHG. We get very accurate, very consistent results with minimal operator interaction.”
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Unique challenges
Stefan, VP - Wood Products for the company, related that he typically measures the success of a project at the time of start-up, and that the Fox Creek endeavor was somewhat unique. With the fire and extended shut down, about 2/3 of the workforce was displaced. The other 1/3 went to work at the company’s Whitecourt operation. About half of the pre-fire crew was available for work in the new plant. As Stefan noted, “We brought some people back that used to work there previously, but very few had experience in a newer facility.” The upshot was that the company invested in training to get the crew up to speed with the new technology. He said that Tom and his staff trained the new crew at the Whitecourt mill so they could get used to a higher feed rate facility. In addition, several Millar Western employees travelled to USNR’s Salmon Arm, BC facility for training on the latest edger and trimmer optimization releases, and on the LHG.

Tom, the Fox Creek mill manager, advised, “We sent our QC mostly for the LHG. It is the first fully-automated LHG for Millar Western and, judging from experience, one of the most important things is to make sure the guys are knowledgeable and feel comfortable with it right off the bat.” This will help the mill to achieve the greatest benefit from the system. (See page 8 for more information about the training.)

Though already familiar with the NSS optimization for edgers and trimmers, mill staff from both Fox Creek and Whitecourt also attended optimization training in Salmon Arm as a refresher, and to understand the latest features.

Paying off
The training and dedication to performance is paying off. Stefan commented, “The sawmill hit design performance in 34 days. This is a brand new facility with a largeley inexperienced crew, and many of whom had never worked in a sawmill before.” He attributes the project’s success to dedicated mill personnel, the various vendors, and the contractors who all worked together as a cohesive team to get the job done. He noted, “There’s no question the USNR start-up personnel did a wonderful job, and spent a great deal of time here getting us going and working through any issues that arose.” He also gave a lot of credit to Al Harrison of K.J. Electric, the electrical contractor and Stan Redekop of New West Industries, the mechanical contractor.

Tom noted the level of support from USNR has been “absolutely fantastic”. Dave Ford, USNR’s senior account manager, handled most of the contractual elements of the project, while John Jacques was USNR’s overall project manager. John noted that this project did present some challenges that were uncommon compared with most. The major challenge came in the engineering and field work to meld the old and new equipment into an operation that would not only be ‘out in front’ from technology and performance standpoints, but also cost effective in utilizing so much used equipment.

Stefan wanted to give particular credit to the Millar Western team at Fox Creek. He noted that Tom Thompson was critical to the project’s success, both in the construction and in the start-up phases. He also gave special mention to Darcy Veillette, QC; Larry Larson, QC; Darin Adamson, sawmill supervisor; Jerry Milburn, contract electrical supervisor; Allan Rizzoli, contract electrician; Terry Bolton, electrician; and Scott Atchison, planer mill finishing coordinator. “They were absolutely instrumental,” said Stefan. “Everyone worked together to make it a success, and it all shook out in the start-up.”

Keeping pace with market opportunities
Both Stefan and Tom laughed when they noted that the next focus for the Fox Creek operation is to make money. Stefan said, “Fox Creek is a brand new facility, so we want optimize production – to make sure we get the most out of it first. Next, we’ll be focusing on making sure we get a good return on our investment in the mill.” He added that the future likely will include adding MSR grading capability to the LHG. With the stars aligned for a positive outlook both for Canada’s economy generally and for the lumber industry, Millar Western’s Fox Creek mill is outfitted to keep pace with improving market opportunities.
Our customers expect state-of-the-art lumber handling equipment that lasts. USNR delivers.

- **Stackers** for stickering and solid piling in all regions and configurations including Lunder, Newnes, and High Speed Stackers
- **Complete Planermill systems** from infeed to package outfeed including USNR and Coastal Planers
- **Full suite of optimization and controls** including Trimm/Edge Opt, LHG, AddVantage, WinTally, MillTrak, and MyMill wireless HMI

With vetted manufacturing capacity in Japan, South America and New Zealand, customers around the world have access to full-featured equipment with practical deliveries.

- **Sawmill Trimmer** lines for all applications from high speed stud lines to custom cut hardwood lines
- **Sorters** of all configurations including Tray, Sling, Bin, Pusher Lug, Drag chain, J Bar

The most comprehensive line of lumber handling equipment in the industry.
When Millar Western decided to rebuild its Fox Creek, Alberta sawmill, it recognized it would need to update the skills of its personnel. Along with its capital investment, the company was prepared to invest in its people resources to ensure the best result from this major undertaking.

**Transverse edgers / trimmers**

Two teams of Millar Western personnel were sent to USNR’s Salmon Arm, BC facility for advanced training on transverse edger and trimmer optimization systems. The course content covered the following topics:

- Optimization review
- Product configuration review
- Advanced product set up
- Decision diagnostics
- Product tuning techniques
- Report analysis

The course covered 3 full days of both theoretical sessions and exercises, as well as hands-on training utilizing a dedicated transverse scan frame outfitted with the latest laser profile and plan view sensors for the Newnes Sawmill Suite optimization system. The optimization platform was the latest version release, and was customized for the Fox Creek application.

This course is particularly applicable for personnel who are involved with the setup of new product runs through the trimmer and edger optimizer scanners, and those who are involved with tuning existing product parameters. Following is an overview of each day’s program:

**Day 1:**
- Optimizer overview
- Logic flow
- Edger and Trimmer decision logic
- Final solution selection
- Data hand-off
- Board scoring
- Parameter calculations
- Wane rules and compound grade setup
- Building products

**Day 2:**
- Product setup
- Pass logic
- Thickness and width tables
- Product values
- Balancing parameters in multi-scanner environments
- System configuration
- Decision information
- Reports

**Day 3:**
- Configuring features: trim save, split board, rip board, saddle wane, marginal length, trim blocks, crook and bow, edge crush, re-centering, grade and edge run out limits
- Scanner frame layout
- System checks and maintenance – laser calibration and lug align
- System timing and board sensing – lugged chain transfers, smooth chain transfers
- Data files handling

As a prerequisite for advanced optimization courses such as this one individuals should have a basic knowledge of USNR optimization systems.

USNR also offers courses in:
- Basic and intermediate level hydraulics
- PLC - from basic level training, through AB ControlLogix, linear positioners, and communications modules
- USNR’s WinTally®, grade mark and ID readers
- BlockPLUS™ VME lathe system
- Optimization - from basic through advanced level training for sawmill machine centers
- BioVision scanning and optimization
- Electrical maintenance for lineal and transverse optimization systems
- LHG - from basic through advanced level training, maintenance and troubleshooting
- AddVantage™ (chop saw and rip) scanning and optimization
- Optimized sawmill lumber manufacturing

As with any USNR’s training programs, course content can be customized to suit the specific needs and applications of the customer. Training can be arranged at any of USNR’s training facilities located at Eugene, Oregon; Woodland, Washington; Parksville, BC; or Salmon Arm, BC. Training can also be arranged on site at a customer’s mill, or at a convenient central location where more than one mill wish to take part. USNR also offers on-line training.

Please contact us at 800.BUY.USNR, +360.225.8267 or info@usnr.com.
Along with a new acquisition for any business comes the need to assess the true capability and capacity of the new venture. When brothers Jason and Chris Brochu purchased a mothballed mill at Hancock, Maine, they quickly ascertained that, for the operation to run to its potential they would need to invest in additional lumber drying capacity, as well as improvements to the primary end.

Pleasant River Pine (PRP) is one of three mills in Maine that are owned by Adrien, Luke, Chris, and Jason Brochu, and Rod Irish and Maurice Bisson. The mills are operated by brothers Chris and Jason Brochu. It is an addition to Pleasant River Lumber spruce mills located at Dover-Foxcroft and Enfield, Maine. PRP prides itself on producing top quality, select products for its customers. It’s an operation that the ownership group acquired in September 2011, and are determined to make into a burgeoning success.

The PRP operation comprises a 12 MMBF sawmill, dry kilns and finishing mill processing high quality Eastern White Pine into 4/4 boards in a variety of grades and patterns, used for interior wood trim components, doors, wood siding, furniture, etc. The sawmill is a mix of new and used equipment; in late 2011 they installed a new HMC carriage with USNR MillExpert optimization and LASAR scanning for both front and back sides of the log.

Setting the target
The mill had four existing dry kilns. Jason Brochu relates, “We wanted to produce around 12 MMBF and we only had drying capacity for 5 MMBF, so we needed to more than double the drying capacity. At the same time we installed a wood-fired boiler to provide steam heat for the kilns.” The new Hurst boiler replaced an old oil-fired boiler.

Jason said the brothers reviewed offerings from a few vendors before selecting USNR. “Looking at price, quality, and the entire package, we saw USNR could provide the best value for us.” In addition to the new kilns, the Brochus decided to go with Kiln Boss controls for both banks of kilns at the PRP operation. They thought it made sense to have a common controls system across the entire process, and it would facilitate training when new employees were hired.

Dry kiln capabilities
USNR Senior Account Manager Bob Pope, has worked with the Brochu family on several projects over the years, and is well versed in dry kiln
technology. He said, “With today’s kilns, it takes less time and energy to yield a high-quality finished product with a higher rate of recovery.”

The three new aluminum frame package kilns add over 110 MBF of drying capacity per charge. The two smaller kilns are 21’ x 33’, with the larger kiln at 37’ x 33’. This kiln configuration is driven by order processing, and allows the mill production flexibility within its kiln loads. The larger kiln will handle high volume products while smaller quantities of selected products are dried in the smaller kilns.

Steam heat is typically used as it affords better control over temperature and drying conditions than direct-fired heat sources. Eastern White Pine has a high green moisture content, but it must be removed at temperatures that will not aggravate brown stain. Regardless of the application each drying system is designed for the customer’s facility and production requirements.

Kiln Boss controls
The PRP operation chose Kiln Boss controls for its new kilns, and retrofitted its existing kilns with the same system. The Kiln Boss system uses the capabilities and functions of an Allen Bradley PLC-based system, but at a fraction of the cost of individual round chart recorder controllers. The Kiln Boss system is user friendly, and allows expert control of all the wood drying variables. It provides accurate multi-zonal temperature control and flexible drying schedules.

Options available with the Kiln Boss system can add value to its many benefits. Continuous monitoring of the steam distribution system will prevent excessive boiler demand during kiln start-ups, and reduce energy usage. Incorporating sample weight or moisture probe input into the drying schedule allows even more control to use time-based or moisture-based scheduling. It is compatible with USNR’s Load Boss in-kiln weight scale system that allows mills to measure moisture content reliably, consistently and automatically.

Real smooth project
This new kiln project did not present any real challenges, from the mill’s perspective, and started up mid-July 2012. Jason said, “Actually, it was a real smooth project. The kiln portion with the controls was mostly turnkey. The whole construction process went smoothly, and the timetable was pretty consistent.

“We’ve been able to increase production, which was our goal.”
The Setup and Status display is used to set up the drying parameters necessary for operating the dry kiln.

Each kiln has access to a master schedule library containing 40 schedules. Above shows a screen from the PRP schedule library.

“The wood that is coming out of the kilns looks good, and the controls are very user friendly.”

with what we were expecting. We’ve done a lot of projects and this one is as good as any we’ve done.”

He went on to say, “It’s only been a few weeks (since commissioning) but everything looks great. The wood that is coming out of the kilns looks good, and the controls are very user friendly. For only having had them running a few weeks we expected to have a few problems and we really haven’t had any.” Jason also related that the kiln operator is happy with the Kiln Boss controls because it is very user friendly, provides good control to manage the drying schedules, and provides feedback on what is happening inside the kiln. “As our operator gains experience, from what I’ve seen of the (Kiln Boss) controls system it will give him better flexibility to manipulate the drying process.”

Achieving their goals

Jason said, “We’ve been able to increase production, which was our goal. The new kilns allowed us to go from a production case of 5 MMBF annually up to 10, and eventually 12 MMBF. So they definitely allowed us to achieve those goals.”

Mill personnel involved in the project were Scott Placey, the operations manager at Pleasant River Pine, and Jeff Tibbits, boiler/kiln operator. Brothers Jason and Chris Brochu share oversight of the entire corporation that includes the three mills, and Jason said, “We spend a lot of time bouncing around between sites, so we have key people like Scott and Jeff at each site.”

After only a few weeks of operation with the new kilns, the owners are looking forward to positive changes in production and quality improvements. Jason explained that they are still assessing the mill’s capacity, and if it exceeds 12 MMBF and markets are good, their bottleneck will once again be drying capacity. If that is the case, additional kilns will be the next step.

Jason went on to say, “The sawmill is in pretty good shape. We’ve recently optimized it with USNR and we’re real happy with that, so we don’t have any big projects planned in the sawmill. Down the road if we increase capacity we’ll add kilns and do some work in the planer mill to add capacity there.” For experienced wood processors like Jason and Chris Brochu, orchestrating a mill’s turnaround after closure isn’t a “piece of cake”, but with the right equipment and good markets it can be a worthwhile and lucrative venture.
Since its inception in 2005, USNR has continued to develop the Counter-Flow kiln into the energy efficient, cost-effective production powerhouse that it is today.

- Production increases up to 155% using your existing heat source
- Fewer defects from less over-drying
- Heat source demand is smooth and constant for substantial energy savings
- Grade improvements of 2-5%
- Kiln Boss controls can slow or speed the push rate based on multiple variables
- Tracks can move at different rates to dry various thicknesses in the same kiln
Visit us in Portland at the Timber Processing & Energy Expo

COME SEE WHAT WE’VE GOT FOR YOU!

Over the past few years, while the wood processing industry was at its lowest ebb and the world’s economies were in upheaval, USNR has been hard at work developing new products and enhancements that would be ready for our customers with the return to economic stability.

If you come to the Timber Processing and Energy Expo taking place Oct. 17-19 in Portland, Oregon, be sure to visit us at booth #405. We’ve got lots to show you and even more to tell you about. Over the next several pages we highlight some of our recent notable accomplishments.

Our display will feature key elements from our new log line design you will read about beginning on page 14. This new compact log line offers many variations for almost any application, and will operate consistently at 600 feet per minute (fpm) – no matter the size of the log. From start to finish we secure the log through the process, so no cant turning is required. And it will accommodate 2- or 4-sided canting, with straight or curve sawing.

Check out the ingenious board feeding device starting on page 17. We call it the TransLineator because it rapidly changes the orientation of a board from transverse to linear, or vice versa. Come visit us in Portland to see for yourself how this system will revolutionize lumber handling and planer mill layouts.

You’ve likely heard about our new mobile machine control software suite called MyMill. We’ll demonstrate for you how this new capability, operating via iPads and iPods, is changing the way we work. Let’s discuss what it will mean for future processing operations.

Our Multi-Track Fence has taken trimmer positioning by storm with 40 sold since its launch only 2 years ago. Come see this machine operating in our booth and find out what all the fuss is about.

USNR’s Transverse High Grader (THG) will also be operational at the Portland venue. THG’s unique configuration features full 4-face scanning using only 2 rows of sensors. It takes advantage of all the processing attributes that our Lineal High Grader (LHG) has tested and proven in the global marketplace for advanced defect detection and classification.

We’d love the opportunity to show you our innovations when you visit us at the show. We hope to see you soon!
Redefining log lines

NEW DESIGN FEATURES AID TODAY’S HARDWORKING LOG LINES

USNR has a rich history of responding to the market by developing and refining its products to meet customers’ challenges. Case in point is the new 4-sided canting line developed for a greenfield mill in Russia that will be installed late 2012. This new line will feature some unique processing refinements designed for this application, but it will also have broader appeal. Stop by our booth at the Timber Processing and Energy Expo to view some of the key components of this line. Following is a detailed overview of the new line and how it will work.

**Infeed options**
- Center horizontally, slew/tilt vertically (shown here). [OR]
- Center horizontally, slew/skew/tilt vertically

The infeed section in this application comprises a typical auto rotation conveyor with scanning. The auto rotation scan data determines the optimized log rotation angle as well as the optimized log cutting solution. The log transfers to a positioning infeed section that positions the log and deposits it onto a sharp top chain, similar to the process with a knuckle turner infeed or SL2500/SL3000.

Because this is a 4-sided cant, the chain has lift and tilt capability to position the log in the appropriate orientation that will create the desired opening face with the fixed bottom chip head. This is similar to the action of an extended length infeed in front of a typical 4-sided canter, and USNR has proven this design at other installations. An alternative application could offer the capability for the positioning infeed to slew, skew and tilt.

**Short, compact design**
**600 fpm – every log, every time**
**Secured transport – start to finish**
**No cant turning**
**Straight OR curve sawing options**
The horizontal centering rolls control the log while it enters the canter heads and side heads. A vertical feedroll module (VFM) is situated between the side heads and top/bottom heads. The VFM features a shifting carriage positioned on each side to set to the width of the cant, and fitted with 3 feedrolls on each side; the center one is fixed, while the leading and trailing rolls articulate with air cylinders. This feature allows for missed face logic to be employed. The feed rolls are equipped with roll scrapers to keep the knurl clean.

**Unique cant development process**

The following features are unique to this new design, and alter the typical breakdown process.

► The side chip heads are located upstream of the top/bottom chip heads (the chain travels through the side chip heads)
► A positioning vertical feedroll module (VFM) situated between the side chip heads and top/bottom chip heads, moves up and down in concert with the chain to maintain the vertical lift and slew of the log as it enters the top and bottom chip heads
► The top and bottom chip heads are situated directly opposite each other

As the conical side heads chip down into the log they create downward force, so the log is secured by the chain, the horizontal centering rolls and overhead press rolls as it travels into the side heads.

The conical top and bottom chip heads create side-to-side force on the log, so opening the side faces first allows the VFM to balance that force while securely guiding the cant through the top/bottom chip heads. The bottom head is fixed; the shifting top head sets to the height of the cant. The side shifting base accommodates different cant widths. The profile rail guide system offers up/down shift.

Conical heads on the chippers, selected for this installation, offer a smooth surface finish to the cant, while complete chip shrouds ensure containment of the chips.

**Processing the cant**

► From start to finish, once the log is scanned and turned it is held securely throughout the process, with no turning required

After processing by the top/bottom heads the square block rides a skid bar into a fixed VFM, is profiled to remove more material, is secured with another fixed VFM, and then processed by a quad arbor sawbox to remove side boards. Next, the cant is transferred to a sharp top chain side board separator to allow the side boards to be separated off for processing.

The profilers each have 4 stepped heads that create 8 separate side board notches. The heads slide up and down on vertical splined arbors. Four shifting profiler heads feature 2 on each side. The carriage tilts to accommodate skewing the side boards.

**PROFILER**

**VERTICAL DOUBLE ARBOR GANG SAW**

**SEE IT IN PORTLAND!**
This log line can be redefined to meet a wide variety of applications. Whatever your primary processing goals, this design can accommodate.

**Choose your length, choose your recovery**
- Short length - slew and tilt infeed. OR
- Full featured, longer length - slew, skew and tilt

This design is a shorter length compared with many other primary log lines. The infeed can feature the simplified positioning (tilt and slew only) applied with this design, or it can be full-featured offering slew, skew and tilt.

**Choose your log size**
- Fitted with knuckle turning rolls to accommodate small logs. OR
- Fitted with reciprocating log turner for up to 30” diameter logs

The line is available with knuckle turner rolls that will handle logs up to 18” diameter, or it can be fitted with a reciprocating log turner to accommodate up to 30” diameter logs.

**Choose your canting: 2/4 sides**
- Centerline chain fixed for 2-sided canting. OR
- Centerline chain lifting for 4-sided canting

The side rolls precisely position the log horizontally on the fly, while overhead press rolls secure the log onto the centerline chain. The centerline chain is fixed for 2-sided canting, or it can be lifting if 4-sided canting is desired.

**Choose to straight/shape saw lumber**
- Downstream VDA for straight sawing. OR
- Downstream VSS for shape sawing

After side board separation, the line can be fitted with a straight-sawing gang, as was the choice for this application. Alternatively, the line could be equipped with a vertical shape saw gang which allows the system to choose to straight saw OR shape saw each piece.

**Scanners**
This line comes with 2 scanners. The first scanner is used for rotation correction. The second scanner has a combination of roles, as follows.

- It features turn detection, where it measures the actual log rotation against what was predicted.
- It offers source quality inspection (SQI); it measures the horizontal position of the log against what was predicted.
- Final adjustment calculations allow the system to move the cutting tools based on the log’s actual position.

When it comes to log line expertise, USNR is a true leader offering a wide range of customized solutions for any application. For more information, please contact us at 800.BUY.USNR, +360.225.8267 or info@usnr.com.
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Millwide INSIDER

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TransLineator™
Technology:
Revolutionizing Lumber Handling

NEW FEEDER TURNS THE CORNER ON PLANER MILL DESIGN

TransLineator technology will reshape how planer mills are designed and upgraded. At planer infeeds it allows pull-through action with micro-gapping, feeds via smooth or lug chain, and it replaces the need for pineapple rolls, shear and a long bridge section. At the outfeed it slows down the boards, and feeds directly into lugs.

USNR’s innovative new TransLineator system is the most space-saving design of its kind. It eliminates the need for a long bridge to feed the planer. It can operate at a slower, more controlled feed speed, yet achieve the same high piece rates. It utilizes pull-through technology to create a micro-gap, ensuring efficient planer operation.

This consolidated design sets USNR’s new TransLineator feed system apart from any other. Combining innovative machine design with dynamic process control, the TransLineator system is set to revolutionize planer mill operations everywhere.

Features and benefits
► Feeds at speeds up to 4000 fpm
► The most compact board feeding system available; frees up space for automated grading or other planer upgrades
► Micro-gapping technology ensures a controlled and predictable gap
► Roll angle allows lumber to turn the corner from transverse to lineal orientation, or vice versa
► Tapered rolls rapidly accelerate the lumber to planer speeds
► No pineapple rolls, no shear and no long bridge
► Can be fed via smooth or lugged chain
► Lug chain feeding allows for future scanning and optimization of the entire planing process
► Improves system performance by 20-40%
► Improves uptime, with less breakage and jams
► Feeds narrows and wides with the same gap
► Lowers energy requirements
► Designed to work with USNR’s new pull-through planers and existing planers
How it works

The revolutionary design of the TransLineator system allows boards to be fed into the planer with a very minute gap, without the need for a long bridge. The rapid change in direction from transverse to lineal feeding, and the sudden acceleration to high feed speeds, allows the system to accurately and consistently create a micro-gap between boards entering the planer. This maximizes planer throughput, while eliminating product damage.

In a typical pull-through feeding system lumber is rapidly accelerated to high speeds at the long bridge section, then decelerated inside the planer to allow the following board to catch up in an effort to reduce the gap. But the amount of gap cannot be accurately or consistently controlled with this type of feed system, and a large gap reduces the throughput of the planing system – the planer spends a lot of time just planing air.

The surface speed of a tapered roll increases from the small end to the large end, and gradually accelerates the lumber as it travels down the length of the roll.

The new TransLineator system consists of cone-shaped, tapered feedrolls and pressrolls arranged at an angle to the fence. The lumber enters the roll at the small end, and exits at the large end. The surface speed of a tapered roll increases from the small end to the large end, and rapidly accelerates the lumber as it travels down the length of the roll.

New planer applications

In a new planer mill design, the TransLineator system enables feeding boards into the planer with a micro-gap, without the need for a long bridge. This significantly reduces the space requirement for your planing line.

USNR’s unique TransLineator can also be used at the planer outfeed to slow pieces down just as effectively, and can feed directly into lugs.

► The tapered rolls gradually decelerate the boards
► The two-stage process allows lumber to change direction rapidly and smoothly
► The angle of the rolls efficiently transitions the lumber orientation from lineal, to diagonal, to transverse orientation
► TransLineator feeding a lug chain eliminates the need for transfer decks and lug loaders

The space-saving TransLineator system also allows extra room to fit advanced technology, like the Lineal High Grader (LHG) automated planer grading system, into tight spaces.
Retrofit planer applications
The TransLineator system can be retrofitted into your existing line to replace old or outmoded feed tables and bridges. Replacing pineapple rolls with the TransLineator system will make your planer line run smoother, with much less vibration and fewer jam ups.

This retrofit is especially applicable for mills that cannot close the gap without damaging lumber. Downtime is greatly reduced.

► Produces a controlled and predictable micro-gap between boards, preventing planer rolls from dropping into excessive gaps
► Retrofit application allows for use of a shorter bridge
► Retrofit options may include board feeder and lug chain transfer
► Need more production? The space-saving TransLineator infeed enables you to replace your old planer with a higher speed model and fit it within the same physical area

Replacing pineapple rolls with the TransLineator system will make your planer line run smoother, with much less vibration and fewer jam ups.

Planer outfeed applications
The TransLineator system enables you to make significant upgrades to your planer mill operation that would otherwise be cost prohibitive. Often mills want to speed up the planer or add automated grading technology, but find the downstream ramifications of these upgrades can cost hundreds of thousands of dollars in building and layout modifications in addition to equipment costs.

Placing a TransLineator at the outfeed feeding directly into a lug chain allows you to remove unnecessary grading decks, lug loaders, and grade mark readers to free up critical space for more sort bins without having to reconfigure the back end of the mill.

Control system
PLC-based controls are the key to complete system integration. USNR’s TransLineator feed system uses the Allen Bradley ControlLogix™ PLC platform with optional Allen Bradley PowerFlex 755 series variable frequency drives.

The PLC system ensures accurate gap control through continuous and synchronized movement of the smooth or lugged chain, and the TransLineator feed rolls. An Allen Bradley PanelView 1500 and feederman’s console provides the operator with information and tools to set the feed rate of both the chain and the TransLineator feed rolls. This facilitates smooth and efficient infeed control, outfeed control, and board planing.

TransLineator is simply another unique design customers can access when they partner with USNR. For information on how this new TransLineator system can work to your advantage, contact us today at 800-BUY-USNR or info@usnr.com.
THG Grading

LHG’s brain in a transverse body.

Our customers expect accurate auto-grading solutions that fit their mill layout. LHG and THG deliver.

We’ve spent years perfecting the Lineal High Grader (LHG) and it’s proven to be the most accurate automated planer grading system available. Now we’ve put all that know-how into a transverse package, the Transverse High Grader (THG). Transverse or lineal, USNR delivers.

- DataFusion integrates multiple sensing technologies to ensure precise and consistent grading solutions
- Same accurate defect detection as LHG
- Same flexible grading options as LHG
- Same operator interface as LHG
- Same advanced optimization as LHG
USNR’s new Grade Projector system is an innovative way to display lumber grades on boards as they pass by check graders. The system uses a projector mounted above the flow to project the grade determined by the optimizer directly onto each board, and tracks that projection with the board as it passes by check graders.

Automated grading systems have become incredibly accurate but still require quality control checks to ensure the system is highly tuned. Check graders need to know what grade the optimizer has assigned to a piece so they can assess it for accuracy, and make any parameter changes if necessary.

The Grade Projector is a simple and effective alternative to traditional paint spray systems and complicated lighting systems. Boards are not marked in any way, so your freshly planed lumber remains clean and bright. The Grade Projector does the job easier and better:

► Projected symbols representing the grades are customizable so you can create symbols your facility is used to using
► All saw lines including near end, far end, and cut-in-2 are projected onto the material in their respective locations making it very easy to view trim decisions
► Multiple grades can be projected onto the material to display multi-grade cut-in-2 decisions
► Projections are highly accurate and able to track material on smooth chain or lugged chain
► Projections detect skewed material and adjust appropriately
► Projecting grades onto boards leaves planed lumber clean and mark-free

Contact us today for more information at 800-BUY-USNR, +360-225-8267 or info@usnr.com.
**NEW PROJECTS**

**Boise Cascade – Edger/BioLuma system upgrade**
The Boise Cascade mill at Elgin, Oregon is upgrading its transverse edger line with BioLuma 2900L scanning and the latest MillExpert optimization software release. Associated PLC controls will be updated as well.

**Carrier Lumber – Edger BioVision system**
The Carrier Lumber mill at Prince George, BC is investing in automated grading for its existing edger line. The scan frame will receive retrofits to accommodate the new BioLuma 2900LV sensors, with the existing LPS3 sensors relocated to the trimmer scan frame. The new BioVision system will allow detection of the following:
- Geometric, wane, shallow face & edge wane (saddle-back), skip, crook and twist
- Knot location, classification and measurement software, including end-zone knot exclusion.
- Decayed/unsound knot classification
- Bark encasement/bark encased knots
- Blue and heart-stain classification
- Splits/shake

This new BioVision system offers 3D modeling with far more detail than any other scanning platform currently on the market today, for optimizer solutions that maximize the fiber for the highest recovery possible.

**Collums Lumber – Sawmill Multi-Track Fence**
The mill located at Allendale, South Carolina has ordered a new Multi-Track Fence along with scanner chains, sorter drive conversion and associated ControlLogix PLC controls.

**Evergreen Forest – Major Edger upgrade with BioVision autograding**
Evergreen Forest located at New Meadows, Idaho is performing a major upgrade to its edger line including a new MillExpert/BioVision automated grading system featuring BioLuma 2900LV sensors.

The scanning system comes with 18 sensors offering 0.02” (0.5mm) color vision resolution, true differential laser scanning measurements at 0.30” (8mm) profile density, and 2500 Hz scan rate. It will offer minute defect detection and accurate grade classification to allow the mill to achieve greater value and volume.

Also included in the project is the Maximizer board edger positioning infeed system, close-coupled edger picker outfeed, and ControlLogix PLC control system.

**Georgia veneer plant – BlockPLUS scanning & upgrades to M790 lathe charger & core drive**
A veneer plant in Georgia recently acquired a used Coe M790 lathe charger. Retrofits the company is planning includes a new BlockPLUS scanning system and replacement OEM drop-in pendulum designed specifically for the M790 lathe charger, as well as rebuilding the M1380 core drive.

The BlockPLUS 3D scanning system provides unmatched high resolution measurements of each block passing through the charger. With nearly 500,000 data points, the scanner creates very accurate block profiles generating optimized solutions for maximum fiber recovery. The enhanced block definition also provides profile data to very precisely position the lathe knife during the carriage retract sequence, thus eliminating collisions and providing significant improvement in wood-to-wood process time. With the BlockPLUS scanning system, dramatic improvement in both recovery and cycle time will be achieved.

**Jiamusi Amur Pulp & Paper – Sawmill automation modernization**
The Jiamusi Amur mill located at Jiamusi city, China is modernizing its sawmill with MillExpert scanning & optimization, and ControlLogix PLC control systems for its primary log breakdown, edger and trimmer lines.

**Lampe & Malphrus – Kiln Boss controls (9 kilns)**
This mill, located at Smithfield, North Carolina is upgrading its existing steam kilns to the Kiln Boss control system. Kilns #1-6 are 6-zone Coe track kilns, #7-8 are 12-zone Coe track kilns, and #9 is an 8-zone USNR track kiln.

**Littrell Lumber – Reskin kiln system**
The Littrell Lumber mill atDecatur, Alabama has ordered a new panel set for its Irvington-Moore steel frame package dry kiln. The new panels will be 2-1/2” thick and prefabricated of aluminum. New vent assemblies and baffles will also be included.

**Mississippi mill – MillExpert/LASAR carriage optimization system**
A mill located in Mississippi will install a MillExpert/LASAR carriage optimization system with both front and back side scanning. Backside scanning is offered as an option that can be included at time of system installation, or added later. In many applications, such as cutting well centered timbers, balancing cant faces, advanced whole log breakdowns, and mills requiring accurate downstream predictability, ‘seeing’ both sides of the log before making the first cut has significant advantages.

Other options this mill purchased include dynamic saw guide height control, integrated saw deviation monitoring, and automated feed speed control.

**Northern BC mill – LHG sensor upgrades**
A mill in northern BC is upgrading its Lineal High Grader (LHG) automated grading system with the latest sensor release for both profile- and vision-based scanning.

The new Ethernet based sensors (LPR2e and VISe) are the latest generation of sensors for the LHG. They offer two main advantages over the existing fiber optic based sensors:
- 1. Communication via Ethernet is far more robust than fiber optics, and is more suited for the LHG’s physical environment in the mill.
2. Data transfer rates via Ethernet sensors is greater than using fiber-based sensors. This allows for a higher scan frequency and the ability to collect more detailed information, thus better defect recognition.

Ontario mill – Trim line upgrades
A mill in Ontario is upgrading its trim line with a new Multi-Track Fence and associated ControlLogix controls platform. At the same time the company is upgrading its Newnes trimmer software to the latest Ver. 7.1 release, and upgrading to the WinTally™ V7 sorter management platform. The trimmer scan frame will be outfitted with the new BioLuma 2900L sensors. These retrofits will significantly enhance the trim line performance for accuracy and improved recovery.

Quebec mill – MillExpert/LASAR carriage optimization system
A mill located in Quebec has ordered a new carriage optimization system featuring the MillExpert platform with front and back side LASAR scanning. The PLC controls system will also receive a comprehensive upgrade.

Russia fiberboard operation – Refurbish, supplement used Coe line
A major international company is investing in a used Coe mineral fiberboard drying line (wet saw through unloader) for its new facility in Russia. USNR is contracted to repair and refurbish the line, including the supply of some new components as required.

Temple-Inland – Press hydraulic system for Coe/VIW press
This plant located at Hope, Arkansas, has ordered a new press hydraulic system. The system is specifically designed for the Coe/VIW particleboard press, and includes a hydraulic reservoir, pump/motor skid and filtration system, as well as ‘Easy Shift’ pre-fill proportional control. Benefits will include:
- Full closed loop servo control of pre-fill valves
- Eliminates the requirement for reoccurring manual adjustments of pre-fill valve
- Insures simultaneous shift of all pre-fill valves
- Provides greater operator flexibility
- Significantly reduces hydraulic shock to the press system
- Reduces cycle time
- Eliminates obsolete and expensive replacement components
- Reduces hydraulic leaks
- Significantly improves oil cleanliness and allows the use of AW 68 oil

TM Baikal – Lunden stacker
The TM Baikal operation at Svinsk, Russia has ordered a Lunden stacker for its green mill. The new supply includes a stacker unscrambler, storage table, Lunden-style stacker with automated stick placing, automated stick feeding, package outfeed, and associated controls for the new equipment.

Washington mill – Curve saw gang optimization upgrade
The customer’s existing Newnes Ver. 6.0 lineal curve saw gang software will be upgraded to the Ver. 7.2 release. Benefits include Windows® 7 operating system for faster processing speeds and more supportable hardware, new database, the Intel®-based decision processor allows for more skew sets to be processed, customized reports, and more.

The scan frame will be retrofitted to accommodate new LPL (Ethernet) sensors, replacing the outdated Hydra lineal sensors. The PLC control system will also be updated to the ControlLogix platform.

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Complimentary Subscription

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Dave Ford is a Senior Account Manager for USNR, based at Salmon Arm, BC. Dave came to this industry following 12 years as a technician in the Canadian Air Force. He started at Newnes in 1993 working in optimization, and gained knowledge and experience through roles starting up optimization systems, then in R&D, optimization upgrade sales and account management. Dave was instrumental in the development of the System Maintenance Program and user conferences for Newnes optimization customers.

Dave has recently been involved in several sales of Lineal High Graders to mills in BC and Alberta, and notes that that product’s continued evolution demonstrates the strength of the USNR team. For Dave, no one project stands out, and he remarked, “Any project, large or small and delivered successfully makes the job rewarding.” He went on to say that the variety of challenges changes with each project, but the satisfaction of seeing a project through from inception to a successful conclusion with a happy customer, is what makes it particularly rewarding.

Dave is a very avid golfer. He also enjoys photography, and he and wife, Donna, enjoy traveling. When at home, their 3 children and several grandchildren keep them hopping!