

Millwide

INSIDER

THE MAGAZINE FROM USNR | MAY 2010

EDGING FOR GRADE

BioVision adds a new dimension to sawmill scanning

A MORE EFFICIENT WAY TO DRY

Claude Howard Lumber ramps up production with kiln upgrade

MAINTAINING THE EDGE

DynaStar offers more choice for mobile devices

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Experts.

Innovations come, live a life, and eventually are replaced or evolve into the next big thing. Have you ever wondered how those breakthroughs come about?

USNR is fortunate to count, among its talented personnel, teams of individuals who are experts in their field with a high level of knowledge and expertise, and backed by experience solving some of the toughest issues the industry has come up against. In every stage of the process our people have made our mark and continue to make a difference in the day-to-day operation of mills around the globe.

This issue includes a story about one of our latest achievements, BioVision grade scanning in the sawmill. The development of this product stemmed primarily out of the work of a team in our Eugene, Oregon facility, led by Bob Arnold. The story relates the experience of an independent operation in adapting this new tool to its process. And you can read a profile of Bob Arnold on page 16 that explains some of the experience he had "under his belt" leading up to this development.

The other mill story in this issue offers a look at the kiln design that has made waves in recent years. Originally coined the Triple-Length Continuous (TLC) kiln, it has seen recent changes to the design prompting a name change. Its new name is the Counter-Flow Kiln, but no matter what it's called it is another example of the expertise of a team of dry kiln designers that brought about a better way to dry lumber.

Beyond excellent design, our products are backed by people throughout USNR who take great pride in their work. Our people know that customers are what make our products and our company great. When your operation is faced with a challenge that technical expertise can solve, call USNR and we'll put one of our teams of experts at work to develop a solution.

Sincerely,
Colleen Schonheiter
Editor

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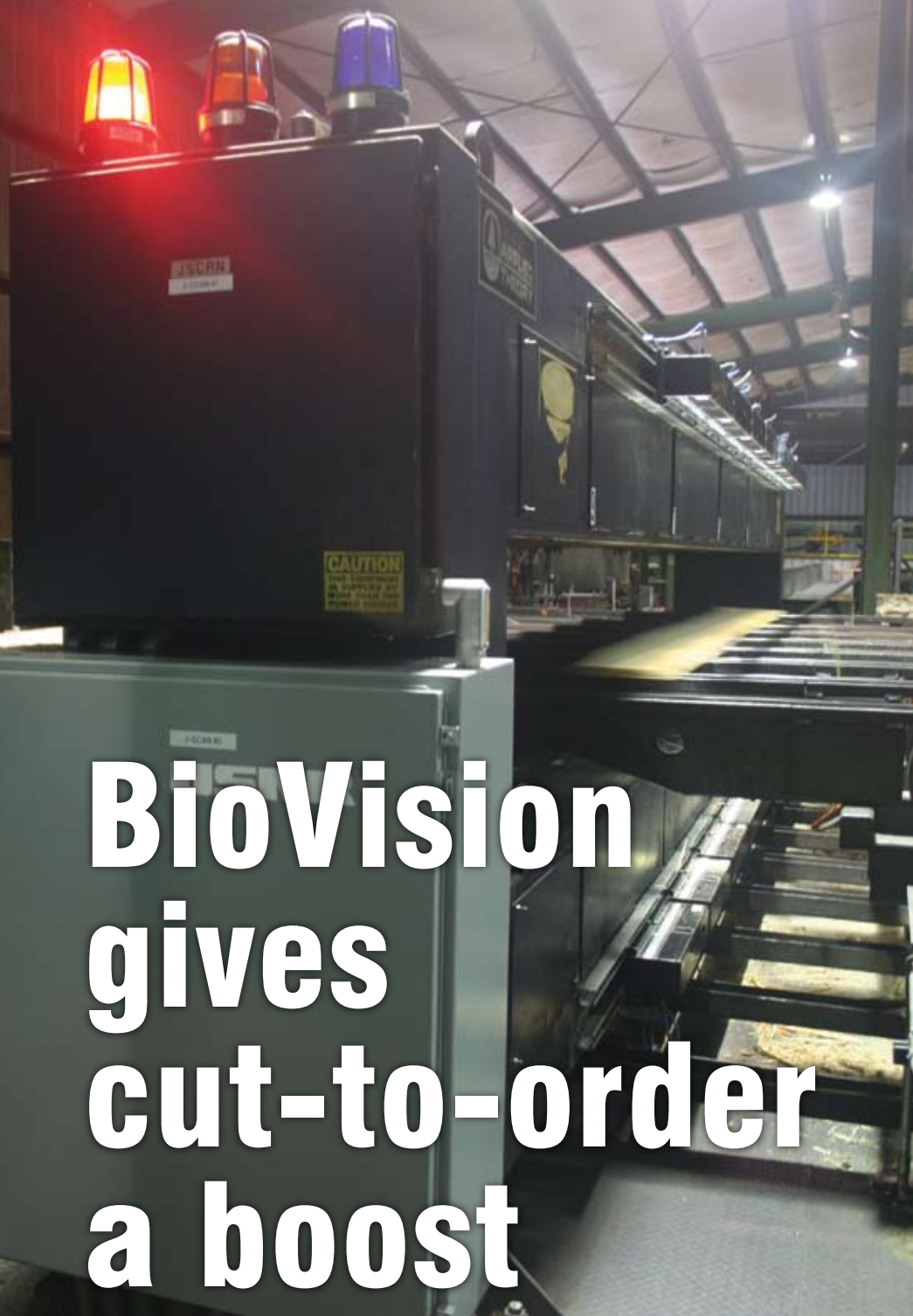
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BioVision gives cut-to-order a boost

H.G. TOLER & SON GETS 'A LEG UP' WITH BOLT-ON SAWMILL GRADE SCANNING

This new tool demands new thinking about how we saw a piece of lumber to make the most of its available wood fiber. Now with knot grading in the mix, we are embarking on a new frontier.

Sawmill BioVision scanning is getting its true value test with the first production installation on a transverse edger system. To date, the results are “two thumbs up”.

H.G. Toler & Son Lumber Company is an independent, family owned and operated mill located in Leola, AR. Started in 1936, today the operation comprises a sawmill, three dry kilns and a planer mill. General Manager John Grigsby is a great grandson of the founder, and his uncle, David Toler, is in charge of quality control of the log stock.

The Toler mill has its own timberland and processes its SYP logs into mostly 4/4 boards S4S (surfaced four sides) that are sold to treating or retail yards and to remanufacturers to be made into pattern stock for siding, fencing, building materials, etc. A small amount of 5/4 decking is also produced. The mill currently runs one shift with a capacity of 30mmbf annually.

Eyeing technology

The mill has invested in a lot of equipment from USNR over the years including its bandmill, horizontal resaw, gang, edger, and most of the equipment in its planer mill. The Geo2 optimized edger line was installed in 1993, and as the oldest scanning system remaining at Toler, obsolescence of its VAX platform necessitated upgrading. The Toler team had been keeping an eye on developments in the industry for sawmill visual grading technology, so when it was time to update the edger optimizer the time was ripe to include vision scanning in the mix. Though they viewed competitive offerings, confidence in USNR and satisfaction in the MillExpert™ optimization suite swung the decision to USNR and the BioVision solution.

When asked about the selection of USNR for this project, John Grigsby commented, “We like the MillExpert platform and we thought the greatest uplift would be through better geometric optimization. We’ve also been thinking about grade optimization for a long time and just waiting for the right product. With BioVision we would also be able to pick out grades, and even though BioVision isn’t proven yet we felt it was ready for the mill floor. Also, we have lots of USNR equipment and we’ve always received good support from sales to service.”

A phased approach

The project scope included a couple of phases; first was an upgrade to the latest MillExpert platform for geometric scanning, followed by the BioVision bolt-on option to add visual grading technology. The MillExpert edger optimizer supports almost any machine type including traditional side-loading edgers to high-speed lineal systems with multiple scan zones. With the switch to MillExpert optimization, the existing Geo2 scan frame and scan heads remain and continue to be used. As a part of the project, the existing scanner hardware was



At Toler, BioVision is provided via a bolt-on assembly that houses the BioLuma vision scanners.

thoroughly checked for proper operation.

USNR's MillExpert analyzes scanned flitch images in 3-D, accepting data from the Geo2 laser scanners. The optimizer evaluates all allowable products and combinations of those products that can be made from each flitch. Optimum recovery is calculated based on dollar value and volume recovery. The optimizer considers product fits (fitting 3-D products into a 3-D flitch) based on the user's inputs (individual species, shape, grade, value, wane, priorities, and dimensional requirements) to find the most profitable solution. The software allows for board products manufactured downstream to be fit into the flitch in real time, proven on virtually every type of edger machine configuration including 2-saw and multi-saw edgers, chipping edgers with or without reman heads. Unique in the industry, no lookup tables, patterns, profiles or matrixes are used to assure the absolute highest value edger solutions possible.

The second phase saw the installation of the BioVision grade scanning system. USNR's BioVision solution is the only system on the market to offer the addition of sawmill visual grade scanning in one of two ways; it can be incorporated into a new scan frame or added to an existing transverse scan frame via a bolt-on housing that accommodates the vision sensors. USNR has combined the proven Linear High Grader (LHG) classification system developed for planer mills with new high resolution BioLuma 2900 color sensors for transverse scanning of lumber.

Scanned images are fed to the defect classification engine where characteristics are extracted based on visual properties and defect shape data. These characteristics are type-classified (for example; knots) according to proprietary

classification rules, then overlaid on the geometric profile model. Optimization software selects the most valuable solution available according to the product parameters, grade rules and prices entered. BioVision benefits include:

- ▶ Maximize volume for lower grade flitches
- ▶ Maximize value by cutting around defects to produce clearer, higher grade boards
- ▶ Smart reman decisions based on defects and geometric shape
- ▶ Fiber classification based on grade (combined vision and geometric data) vs geometry only
- ▶ Confidence algorithms compare solutions with and without grade input

The original controls system (installed in 1993) was upgraded from an Allen Bradley PLC 5/40 to the ControlLogix platform which was installed by a third party electrical contractor, T&L Enterprises of Post Falls, ID, with programming and start-up performed by USNR engineers and technicians.

Challenges

Over and above the fact that this is the first BioVision production unit, this project presented a couple of other challenges. At the Toler mill, large logs are not debarked which tends to smear bark from the flitch edge across the face making it more difficult for the vision system to find knots. The solution is a simple parameter change that can allow MillExpert to ignore BioVision data so the wide, clear flitches can run without being downgraded due to smudging on the faces of the flitches.

Another challenge was the close-coupled aspect of this system that necessitated it to get a solution to the PLC for actuation in a very tight timeframe. Precise tuning helps alleviate this issue and ensures the system has all the data at hand to deliver optimum solutions.

USNR's Bob Arnold led the team responsible for development of the BioVision system and was intimately involved with this crucial project in the system's evolution. Bob made the following comments about this application, "The BioVision



USNR's new BioLuma 2900 sensors contain high resolution digital color cameras and LED lighting to provide accurate images along with increased reliability.

system was configured to bias towards cutting higher valued clear boards out of a flitch by avoiding the inclusion of knots when possible.” He went on to explain, “John Grigsby brought a batch of flitches from the Leola mill to USNR’s Eugene, OR facility to run them through the test scanner. This allowed pre-tuning of the BioVision system to achieve the results he desired prior to the startup.”

Smooth start-up

The installation got underway in January 2010, with a return visit for final tuning of the BioVision system in April. Installation was overseen by USNR’s Gilbert Aponte. Gilbert is no stranger to many of the Toler personnel, in fact he was on hand when the edger system was first installed in 1993.

John Grigsby was pleased with the way the start-up progressed. “It started up well right out of the box. It’s probably one of the smoothest electronic start-ups I’ve ever been through.”

Results are in!

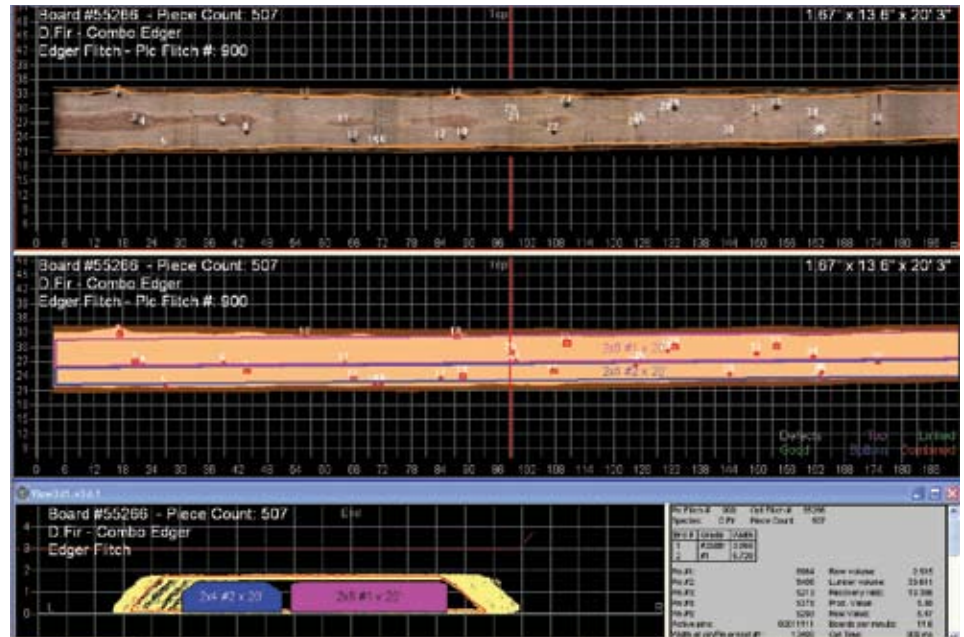
John is also more than pleased with the results he is seeing from the system. “We’re noticing an uplift in the amount of C and D (grade) lumber. It really excels when we cut wides, we can cut 70-80% C and D. That’s a real good judge because we cut for grade only (cut to order), so the BioVision has to sort out what is grade and what isn’t, and when to make wides.”

He went on to say, “In terms of knot size classification it’s doing real well. It allows us to cut for specific lengths and specific grades, of specific widths. It can pinpoint exactly what we want to produce. If all we need to make is 1x12, C&better 16’ long, and if we set that as priority it won’t cut anything but.”

“Each grade class has a different wane class, so as knot defects drop the piece down in appearance grade it can stand more wane. That is how we gain in volume, by edging for the grade that is in the flitch. We used to saw for a medium grade, and it ended up being over sawn for low grade and under sawn for higher grades. Now we’re more on-grade. BioVision allows us to maximize both volume and value. If it’s a higher value piece we can cut for value, but if it’s lower value we can cut for volume. By producing lumber at the mill that is on-grade, the final grading process is streamlined, requiring less trim. The graders can often simply verify grade instead of having to trim to get it.”

Team work

Key Toler personnel for this project included Paul Baker, mill foreman, Larry Dial, grader supervisor and planer mill foreman, and Tim Caudell, mill electrician. Larry assisted the process by helping set up the grade parameters for the BioVision to work in conjunction with planer mill grade parameters. Training was delivered on site by USNR’s Bob



BioVision’s user interface features both a camera image of the board as well as a computer-generated image that displays the defects and the optimizer’s solution. This feature aids in tuning and troubleshooting, as well as off-line rerun simulation.

Arnold, Gilbert Aponte and Gary Middleton, regional sales manager and long-time ally to the Toler operation. Ken Lafayette of Lafayette Services aided on the coordination and installation of the upgrades, both mechanical and electrical.

Process evolution

According to USNR’s Gary Middleton, “This new tool demands a new way to think about how we saw a piece of lumber to make the most of the available wood fiber. Since the development of geometric scanning we learned how to set up the optimizer to recover as much volume as possible from a flitch. Then when the piece got to the planer mill the result could be beautiful clear wood but with wane all over it. The solution could have resulted in a piece that was worth so much more. Now with knot grading thrown into the mix we are embarking on a new frontier.” We are particularly appreciative of those processors, like H.G. Toler & Son, who through their confidence and trust help USNR to take the next evolutionary step forward. 🌐

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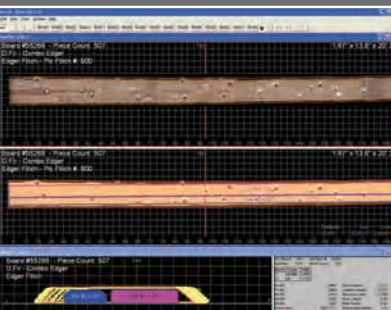
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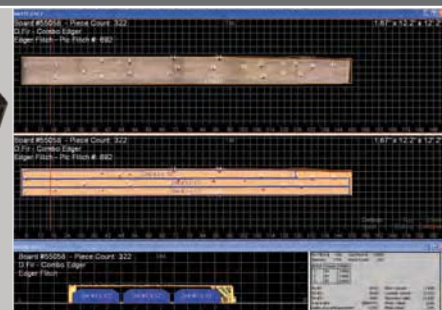
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Genuine Coe Parts and Service

CALL USNR FOR COE PARTS AND SERVICE

In the last issue (March 2010) we introduced some of our parts and service personnel who are working to support your Coe systems. This month we'll introduce you to some additional members of this talented team. Some you may know, others maybe not, but this is an opportunity to put a face with a name and get to know them a little better.

Bill Kessler: Parts Specialist – Painesville, OH

Before coming to this industry, Bill worked at a nuclear power plant for 9 years. He was hired at Coe in 1993 working in the shop with the sheet metal team until 1998. He moved to the purchasing group and then production inventory control before leaving to pursue a sales and service position for a bearing distributorship. In 2007 he returned to Coe to the parts sales team.

Bill says, "The most rewarding part of my job is when I can identify a part and get it to my customer before he has a breakdown situation." Apart from work Bill enjoys spending time with family and friends, and he likes to fish and bike ride.



Bill Kessler



Greg Rigby

Greg Rigby: Parts Specialist – Jacksonville, FL

Greg Rigby is well known to many customers with Coe products. He started with Coe in May of 1977 in the Painesville, OH office in the export department under mentor and long-time parts manager, Burt Wilkinson. In 1981 he became inside parts sales representative in Coe's Tucker, GA office. In time the warehouse was moved to Stone Mountain, GA, where Greg was later promoted to facility manager.

"During my 30 years at Coe I have had the pleasure of working with and learning from veteran Coe engineers, shop personnel, and field service people. I have also gained a wealth of knowledge from many of the long-time Coe customers," Greg expressed. Though well versed in all the Coe equipment, Greg primarily transacts parts orders for the Coe plywood and gypsum lines.

He went on to say, "I enjoy working with the customers. They are good people and very appreciative of the assistance we provide. I enjoy working in this industry and with the interesting machinery that we manufacture."

Why should customers buy parts from USNR? Greg says, "We can offer them genuine Coe OEM manufactured parts, made to original specifications, at a competitive price. Along with the parts comes the knowledge of their machinery and the right part for their requirement."

Greg also enjoys spending time with family, particularly his three grandchildren, and is active in his local church. Greg says, "We also have two dogs that keep me busy walking and visiting the neighbors."



Cliff Banta

Cliff Banta: Parts Specialist – Woodland, WA

Cliff Banta began his career in this industry at Coastal Machinery in 1997 as a delivery driver, with prior experience in automotive parts sales. He spent time in the Coastal warehouse before being recruited to the parts sales team shortly after Coe purchased Coastal Machinery. Currently he sells the complete line of Coe parts.

"The most rewarding part of my job is having satisfied customers after we have shipped out those emergency parts to get their machinery up and running again. Customers should contact us when they need parts for their Coe equipment because we know their machinery best, and we have the quality parts and expertise to keep them running smoothly."

Apart from work, Cliff and his wife enjoy travelling and visiting as many baseball stadiums as they can across the country.

Jennifer Work: Parts Specialist, Coastal Planer – Woodland, WA

For nearly 15 years Jennifer Work has been steeped in the world of the Coe Coastal planer. Her experience began by creating bills of materials and reviewing engineering drawings for the planer and feed table, and working in inventory control. This was a good grounding for an eventual move to inside parts sales and quoting upgrades for the Coastal planer and feed table.

Focusing her attention to one product line has allowed Jennifer to deepen her knowledge in this area, so she can be confident when she recommends customers call USNR for parts and upgrades for their Coastal product. "I have been with the product for almost 15 years, so I have a pretty extensive background in it."



Jennifer Work

Jennifer is adamant when she says the most rewarding part of her day is, "Working with my customers!" When she is away from work she devotes much of her time to her 5-month-old daughter, Lila. Jennifer also enjoys photography, hiking and traveling.

Larry Serfass: Service Technician

Larry Serfass is another long-time veteran of the industry, having started at Coe Manufacturing in 1985 as an electronics technician. In 1986 Larry moved to the field service team handling installations and service work for the Coe D*TEC line of optimizers. In 1993 he spread his wings and went to work at a number of lumber mills before returning



Larry Serfass

to what was then Coe Newnes/McGehee in 2007. He traveled to Germany to work on two major planer mill installations, and then to Russia for a lathe line installation. His current specialty is installation and service for the BlockPLUS lathe optimization system, as well as maintenance on lathes.

Larry comments, "What I enjoy about working field service are the opportunities and challenges in making machinery function and perform at its highest capabilities. An ancillary note to working field service is the opportunity to visit different parts of the world and learn about different cultures. From my experiences of traveling all across North America, Germany, Sweden, and Russia I have met a diverse group of individuals. This affords me personal growth through understanding how businesses in various locations operate and this, in turn, helps me to understand the diverse needs of customers all over the world."

Larry believes strongly that the parts and service teams with Coe product knowledge and expertise bring great value to customers who own Coe equipment. "I believe it is very important for customers to use experienced service representatives to help keep their plants on track with machine center maintenance regimes to ensure their machines perform at their peak. The market is tough enough, and there is the potential to lose substantial revenue due to a lack of equipment performance or frequent breakdowns."

Dave Davis: Service Technician

Dave Davis was hired at Coe Manufacturing in 2000. He came from a 10-year career at Louisiana-Pacific, performing maintenance duties at various mill locations. Dave's specialty is the Coe hydraulic press but he has also provided service and installation on all Coe equipment lines.



Dave Davis

Having done a lot of traveling in his line of work, Dave made these comments. "There are many rewarding things about my job, problem solving and interacting with the many people and cultures around the world are what come mostly to mind."

Why should customers call USNR for service on Coe equipment? You can't beat the combined years of knowledge and familiarity that our trained technicians can provide to save you time and money when your equipment needs service or repair. In Dave's case, 30-plus years of troubleshooting and installation of industrial machines offers customers the experience and expertise to solve the problem quickly and get your equipment back to running in tip top fashion.

Dave and his wife of 26 years enjoy spending their free time together and are avid travelers.



Eric Schuler

Eric Schuler: Service Technician

The Mann-Russell line of RF gluing products is Eric's specialty. He hired on with Mann-Russell Electronics in March of 1988. In Eric's words, "Mann-Russell is the leading producer of radio frequency gluing, curing, and drying equipment in the engineered wood products industry." Mann-Russell was purchased by Coe Manufacturing in 1989. During his tenure Eric has held roles in engineering, field service and production in all phases of radio frequency technology for the wood products industry. He comes from a background as an electronics technician in the U.S. Navy working on submarine-based radar and communications equipment.

Eric also has experience with Coe lathe lines, dry kilns, plywood lay-up lines, plywood presses and planer systems. He says, "What I find most rewarding is the satisfaction of being able to solve the toughest of problems under difficult circumstances. I also enjoy working with the best team of field service people and engineers." He went on to say, "It has been my experience over the years that Coe has a reputation of bending over backwards to get tough problems solved and get the job done right. And USNR carries that same torch."

When Eric gets the chance away from work he enjoys fishing and hiking, woodworking and spending time with family. 🌐

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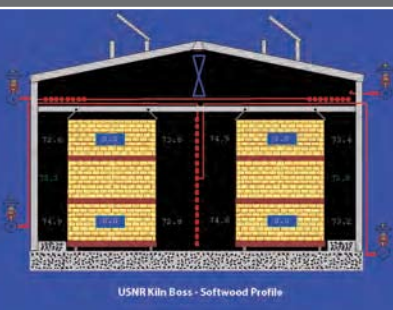
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The heat is on at Claude Howard Lumber



IMPROVED DRY KILN DESIGN RAMPS UP PRODUCTION

For an independent operation like Claude Howard Lumber, a bottleneck in production is only one of the factors that can spell serious trouble in a make-it-or-break-it economy. Not to discount market factors, but throughput is one thing that an operator has some control over. And that is what was in Bill Howard's mind when he decided to convert one of his kilns to a continuous flow process based on USNR's Counter-Flow Kiln design.

Claude Howard Lumber (CHL) is located at Statesboro, GA. A fourth-generation family owned and operated company, it was started as a mobile mill in 1898 by Bill Howard's great grandfather. At that time the mill moved wherever the wood was. The current site has been home to the processing

operation since 1945. Besides Bill, who is general manager, his brother, Claude Howard is in charge of the dry end of the process and quality control.

CHL produces 1x4 through 2x12 decking and timbers, for both domestic and export markets. Bill says they sell mostly 'east of the Mississippi'. It is currently a one-shift mill with an annual capacity of 65 mmbf. Interestingly, the mill has past experience with USNR, Newnes and Coe as vendors; all of the mill's optimization is from USNR, planer mill and sawmill trim line are Newnes, and the planer is a Coastal machine (Coe). The second kiln at CHL is an Irvington Moore batch kiln that burns shavings for fuel.

"I would say that our production has almost doubled and we have seen less drying defects."

The Counter-Flow Kiln concept

The Counter-Flow Kiln consists of a central heating chamber along with large conditioning chambers on each end. The kiln operates continuously; lumber stacks run in opposite directions allowing heat coming off the dry lumber to preheat the green lumber packs at one end, and moisture coming off the green lumber to condition the dry lumber at the other end. This process produces lumber with less stress and a tighter moisture distribution than traditional batch processes. It uses a staging and loading system to keep packages moving through the kiln continuously and automatically, with the capability to process lumber at different rates on each track based on product dimensions and kiln conditions.

While it is certainly possible to build a Counter-Flow Kiln from the ground up, most of USNR's customers, including CHL, have opted to modify an existing kiln by adding the conditioning chambers on each end. This significantly reduces the size of the investment since virtually all of the value in the existing structure and energy system remains intact. Still, a ground-up project has its place where a mill



doesn't have the option of taking drying capacity offline during construction or where there isn't room for the conditioning chambers.

It is interesting to note that the initial Counter-Flow Kiln design called for a structure three times the length of a traditional batch kiln using equal-size heating and conditioning chambers. Subsequent design optimization based on field experience has allowed USNR to shorten the conditioning chambers without compromising performance, reducing the total length (and cost) of the system.

Project Details

The Counter-Flow Kiln was installed at CHL in the latter part of 2009, with start-up completing in December. The scope of the project involved extending the main chamber of the existing kiln (Irvington Moore design installed in 1996) and adding a conditioning chamber at each end, a double-track rail system to automatically advance the lumber, and a Kiln Boss controls system.

The kiln is fueled by wood waste through its existing sloped grate sawdust burner. USNR extended the ducting throughout the longer main chamber, and installed additional variable speed fans in the main chamber as well as the two conditioning chambers.

The Kiln Boss control system allows precise

control of all the wood drying variables. It tracks custom drying schedules, alerts mill personnel to trouble or system changes, and reports batch and historical statistics for review. It allows Bill Howard, or his operator, to examine and change kiln parameters with the click of a mouse. The system is menu driven making it simple to operate, and the monitor provides a graphic view of kiln operation that shows at a glance what is going on at the kiln.

According to Bill Howard, "It's an automatic system that's much simpler to run (than the batch-style kiln design). I can control it from my office with my parameters." So, did Bill get the increased production he was looking for? "I would say that our production has almost doubled and we have seen less drying defects."

When asked about energy consumption, Bill was non-committal. "I haven't had it long enough to determine. It uses less horsepower and we figure it probably saves us \$150,000 per year over if we had purchased a batch kiln."

Hands-on management approach

Jeff Cowley, USNR account manager, worked with Bill on this project and has a lot of respect for Bill's know-how. "Bill Howard is a very thorough and professional manager. He looks at all the available equipment for any given project and analyzes it to

the max. However, in the end if you are awarded his business you know you have the best there is to offer. Once the contract is signed Bill is involved hands-on to completion. He makes thorough note of any concerns and makes sure they are addressed to his satisfaction. In this way Bill actually makes the vendors smarter about their own products during the course of the project."

Bill also surrounds himself with a team of personnel that is among the best. Besides Bill, the team at CHL who were directly involved with the kiln project include Ken Potter, dry end supervisor, Keith Myrick, electrical controls manager, Eric Baugh, green end maintenance manager, and Ken Appledoorn who is an independent contractor and oversees all the CHL projects. On the USNR side were Jeff Cowley in sales, Mike Sanders who handled project management, Larry Rich who oversaw the installation, and Steve Edmonds who did the PLC programming.

What is Bill's conclusion about the project now that it's complete? "Would I do it again and with the same vendor? Yes. That's how I judge projects." With lumber prices up, Bill noted, "It has definitely been a good first quarter." And with expanded kiln capacity to ramp up production Claude Howard Lumber is running full speed ahead. 🌐

COLLABORATION LEADS TO SUCCESSFUL PROCESS EVOLUTION

USNR began development on the Counter-Flow Kiln in 2003 following discussions between Andy Pollard of Pollard Lumber in Appling, GA, and the USNR team at Jacksonville, FL. The idea for an extended kiln design was not really new, but what was unique about this new design was to run loads of lumber on a side-by-side double track in opposite directions through the kiln. This would create an opportunity to let the hot lumber exiting the kiln on one track give up some of its heat to the green, cool lumber entering the kiln on the other track. At the same time the green lumber would give up some of its moisture to help equalize the final moisture content, or even condition the dry lumber.

The concept was, if this transfer of heat and mass could take place in a reasonably efficient manner then an overall energy saving could be obtained, the lumber may suffer less degrade due to the equalizing and conditioning, and the continuous movement of the lumber may lend

itself to higher production in terms of board feet dried per hour. The goal was simple: dry more lumber in less time and with less energy. This led to consideration of a continuous process for drying lumber rather than the batch process, and the Counter-Flow Kiln concept was born.

Wade Beery, kiln designer for USNR, met with Andy to talk about the application. Wade related, "We ran some thermodynamic calculations and researched current drying literature, and thought about specific equipment that may be necessary to make the idea work in the field. The numbers seemed to work on paper, so we took the design off the drawing board and into production."

After working through the proposal process and refining the equipment specifications to meet Andy's needs, he purchased the first Counter-Flow Kiln from USNR. The kiln team engineered and fabricated the kiln (with several changes along the way that were required in going from a batch process to a continuous

process) and shipped the project in January 2005. Installation followed under Mike Sander's overall supervision, and start-up was in early June of 2005.

The process worked as envisioned, with reports of about a 40% increase in board feet dried per hour, energy savings of about 20-30% compared

to the batch process, and acceptable moisture contents, standard deviations, and lumber quality. Almost five years later the prototype kiln continues to perform at Pollard Lumber.



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Effective April 2010 there is no longer a fee for a handheld license. Software version releases after this date will no longer restrict the number of devices that are able to be registered and used by the DynaStar application.

DynaStar Mobile

As DynaStar Mobile is compatible with any Windows CE or Windows mobile device, clients will now be able to use existing barcode-capable scanning devices they already have in use¹.

Whether it's counting inventory items, disbursing parts, viewing work orders, entering your time, taking meter readings, or transferring data to and from the DynaStar application, every DynaStar Mobile procedure is simple and intuitive.

Simple interface

Along with its streamlined procedures, DynaStar Mobile's clean and simple interface will also decrease training costs. Large text enables viewing in variable light conditions, while the tabbed layout makes switching between the start up, inventory or maintenance screens, quick and easy. For maximum efficiency and flexibility, every action in DynaStar Mobile can be performed either by pressing keypad buttons or by tapping the oversized user interface controls on touch-sensitive screens (with a stylus or your finger).

New Windows Mobile Smart Phones

H16A Smart Phone

The H16A is a high-performance, rugged smart phone with an integrated 1D scan engine, a slide-out QWERTY keyboard and multiple modes of wireless communication (GSM/GPRS/EDGE, WiFi and Bluetooth™) to meet all the needs of your mobile workforce.



H16B Smart Phone

The H16B is a high-performance smart phone with an integrated 2D scan engine (CMOS imager), a slide-out QWERTY keyboard and multiple modes of wireless communication (GSM/GPRS/EDGE, WiFi and Bluetooth).

H19A Smart Phone

The H19A is a high-performance, rugged smart phone with an integrated 1D scan engine.

H19B Smart Phone

The H19B is a high-performance, rugged smart phone with an integrated 2D scan engine. Network access regardless of location. With GSM/GPRS/EDGE, WiFi (802.11b/g) and Bluetooth™ support onboard, your workforce can easily connect to voice / data networks and peripheral devices for real-time remote data capture, email and office productivity on the go, and other business



applications that require network connectivity while away from the office. In addition to the broad array of standard communication features, the H19B also provides integrated GPS capability using the SiRF Star III chip. When combined with the default configuration of 512MB ROM for high volume data storage, there is a wide range of applications for which the H19B is the right choice.



PHL8112

The rugged PHL8112 features an integrated 1D scan engine and a full color 3.5" TFT display, with an alphanumeric keypad. Wireless communication occurs via Bluetooth and WLAN.

The unit is sealed up to a rate of IP 65 and withstands drops of up to 1.5 meters onto concrete.

The physical design of these terminals offers a convenient balance for user operation with a graphical LCD display and keypad with backlight, providing equally excellent viewing in dim or bright lighting.

With the 2200mAh battery (or high capacity 4000 mAh battery) and the high performance processor, the PHL8112 can run heavy applications. The wide range of accessories and optional functionalities enable optimal use of the product.

Socket SoMo 650EB-M

The SoMo 650 is designed for business mobility applications including; sales force automation, inventory management, merchandising and asset management. Featuring a contoured grip surface, the SoMo 650 is ergonomically designed, and an easy-to-use Windows Mobile® powered computer.

The SoMo 650 provides reinforced CompactFlash and Secure Digital I/O slots to take full advantage of slot based peripherals and protect the computer from the day-to-day impacts of mobility deployment.



The SoMo 650 includes a true business class implementation of Bluetooth and WiFi wireless networking, and is Cisco CCX 4.0 certified for dependable connections, great coverage and advanced features such as Voice over IP communications.



Symbol MC3000 Series

The MC3000 from Symbol Technologies is a lightweight, rugged mobile computer ideal for scan-intensive environments that require high quality data capture throughout the enterprise. Its superior ergonomic design and flexible configurations facilitate faster decision making and increased

workforce satisfaction inside the plant, outside in the log yard, or on the road.

The MC3000's rugged design and IP54-rated sealing ensures continued use and uptime by protecting against dust, moisture and extreme temperatures. And whether working inside or out, the MC3000 has a drop spec of 4' to concrete across vast temperature ranges, reducing equipment and maintenance costs.

With such a variety of choices for mobile maintenance management with built-in business communication, DynaStar is today's clear winner in its field. Call 800.BUY.USNR today for more details about these devices. 

¹An adjustment to the DynaStar software may be needed for compatible devices not supplied by USNR. Contact DynaStar Technical Support and we can advise if there will be any fee for this service on such devices.

Did you know...

USNR offers the widest range of wood processing machinery in North America.

In business for over 100 years, our product line includes dry kilns, machinery, 3D scanning, optimization, PLC controls and comprehensive mill services. From grade hardwood mills to high-production pine mills, USNR has a solution for you. USNR also leverages its buying power to guarantee customers the best prices on maintenance parts like bearings, chain, valves and cylinders. Call **800.BUY.USNR** and ask for your sales representative.



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NEW PROJECTS

USNR has received an order from **Ben Hokum & Son** in Killaloe, Ontario, for a 10' x 10' chip screen to replace one originally supplied by Forano 30 years ago.

The **Canfor-New South** mill in Camden, South Carolina has ordered V7 optimization upgrades for its Newnes lineal edger and gang. Both systems will also receive new LPL sensors, offering high-speed, high-resolution performance.

Canfor-New South in Conway, South Carolina has ordered an upgrade to its MillExpert optimization using LMI L400 sensors.

Carter Holt Harvey has been in the process of rationalizing its sawmill operations in New Zealand, affording USNR the opportunity to assist in the modernization process. At the Whangarei facility a planer mill Trim/Sort/Stack line replaces a dry chain and brings automation to the planer mill. The project consists of a mixture of relocated equipment from closed CHH sawmill sites in New Zealand, plus new technology and conversions from USNR to enhance operational capabilities. Along with the many lumber handling pieces and conversions, the order includes four MillTrak lumber flow systems to improve board control and operational efficiency.

USNR has received a new order from the **Seattle Snohomish** mill in Snohomish, Washington, for a 33' x 120' double track dry kiln. This will be similar to the kiln USNR delivered to the same site in March 2010.

The McGehee gang at **Hampton** in Willamina, Oregon is being outfitted with Newnes scanning and optimization. The TriCam sensors from the existing MillExpert scanning system will be relocated to the mill's bucking line. The Hampton mill has also ordered a high speed edger infeed charging section. The USNR edger infeed will replace an existing Flare infeed. Hampton expects the side-positioning and centerline chain style infeed from USNR will be more accurate and require less maintenance than the existing infeed.

Materiaux Blanchet in St-Pamphile, Quebec has recently ordered an automated horizontal resaw outfeed table to replace its existing manual table.

S & R Sawmills in Surrey, BC has ordered its third LASAR carriage optimizer with PLC based controls. USNR is currently installing the second system. The mill has seen significant improvements in recovery and production since the first installation.

USNR is pleased to announce that **Scotch Plywood** has purchased a natural gas burner upgrade for its wood waste-fired M-72 veneer dryer. The new burner will allow the plant to elevate the temperature in Zone 1. By directing the wood waste-derived energy originally consumed in Zone 1 to the other heating zones, they will also elevate the overall operating temperature of the dryer. The increased temperature will reduce drying time and improve dryer productivity.

Two MillExpert Carriage optimizer systems with LASAR scanning are going to **Middleton Building Supply** in Middleton, New Hampshire.

LASAR carriage optimization with PC-based networks controls system will be going to **Murray Brothers** in Madawaska, Ontario.

A hardwood mill, **Pike Lumber** in Milan, Indiana, has ordered LASAR carriage optimization and PLC controls and a MillExpert lineal hardwood edger optimizer.

Warm Springs Forest Products in Warm Springs, Oregon has purchased a MillExpert upgrade for the mill's M6 edger.

Several **West Fraser** operations have recently ordered upgrades for their equipment:

- ▶ Fraser Lake Sawmills in Fraser Lake, BC will receive two trimmer optimizer upgrades with Newnes Sawmill Suite (NSS) V7. This will allow the mill to resolve obsolescence issues with old Windows NT4 platforms and benefit from the new features and functionality in the NSS system.
- ▶ The 70 Mile House, BC facility will receive an upgrade for its curve sawing gang optimizer to Newnes V7.
- ▶ The Smithers, BC facility will receive an upgrade for its trimmer optimizer to Newnes V7.
- ▶ The Williams Lake, BC facility will receive an upgrade for its edger optimizer to Newnes V7.



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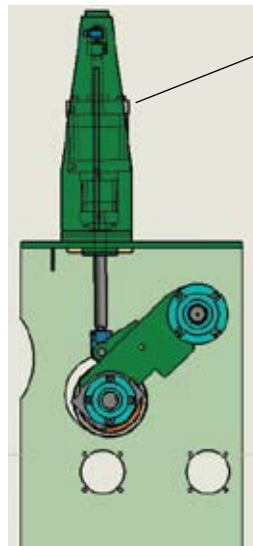


CONTROLLING CANTS: DUPLEX AIR CYLINDER CONVERSION

USNR's duplex air cylinder conversion can help control cants being processed by your gang. This will improve throughput and safety, and reduce operating costs.


When processing cants through a traditional or curve sawing gang it is necessary to counteract the lifting forces created when sawing a cant in a bottom arbor climb-cutting configuration. The lifting force is created by the saws and is counteracted by the press rolls. Depending on the geometry of the press rolls to the feed rolls and their relationship to the arbor, it can be necessary to provide very large hold down forces. Inadequate hold down force from the press rolls can cause cants to get stuck in the saws or to be thrown out of the machine. If too much hold down force is applied, smaller cants can be crushed or excessively marked by the feed roll knurls or the bed chains.

USNR's solution was the development of the multi-bore duplex (stacked) air cylinder arrangement for the press rolls. The design features a larger bore cylinder positioned above a smaller bore cylinder, allowing for a greater hold down force to be applied to larger cants and a lesser force applied to smaller cants. A side benefit of this arrangement is less air consumption because the cylinder travels a shorter distance, on average, between cants.



With this design, a larger bore cylinder is positioned above a smaller bore cylinder to apply the correct amount of force needed to control various-sized cants.

- ▶ Improve throughput
- ▶ Improve safety
- ▶ Reduce operating costs

To date USNR has installed a number of these conversions, all with good results. This enhancement can be applied to many brands of gangs, and is also available on new USNR gang installations. 





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PROFILE

Bob Arnold is one of USNR's Product Development Managers, and is based in Eugene, OR.

Bob started his career at Newnes Automation Inc. in 1989 after completing his Bachelor of Computer Engineering from the University of Victoria in BC, Canada. In the ensuing years he also worked

for Applied Scanning Technology before settling in with Inovec/USNR in 2002.

His passion for applying scanning technology to wood processing has led him to serve on teams that reworked the Newnes V5 edger and cant optimizers, developed the Newnes primary breakdown and log bucking optimizers, developed the G3 optimization platform, and most recently the BioVision product.

Bob says, "The increase in

computing power over the past two decades has opened up new opportunities for automation throughout the sawmill. I enjoy working to identify problems and develop solutions, and value the chance to make a substantive difference in the day-to-day operations of our customers."

Together with his wife, Laurel, Bob has 3 teenage children. Besides managing software development, Bob is an avid table tennis player and occasional woodworker.

UPCOMING EVENTS

MAY 13-14
NELMA
Boston, Massachusetts

MAY 21-22
Expo Richmond
Richmond, Virginia

JULY 14-17
SLMA
Naples, Florida

JULY 21-22/26-27
ScanTech
Rotorua, New Zealand
Melbourne, Australia

AUG. 25-28
IWF
Atlanta, Georgia

SEPT. 27-OCT 1
LESDREVMASH
Moscow, Russia

OCT. 17-19
APA/EWTA Info Fair
Tucson, Arizona