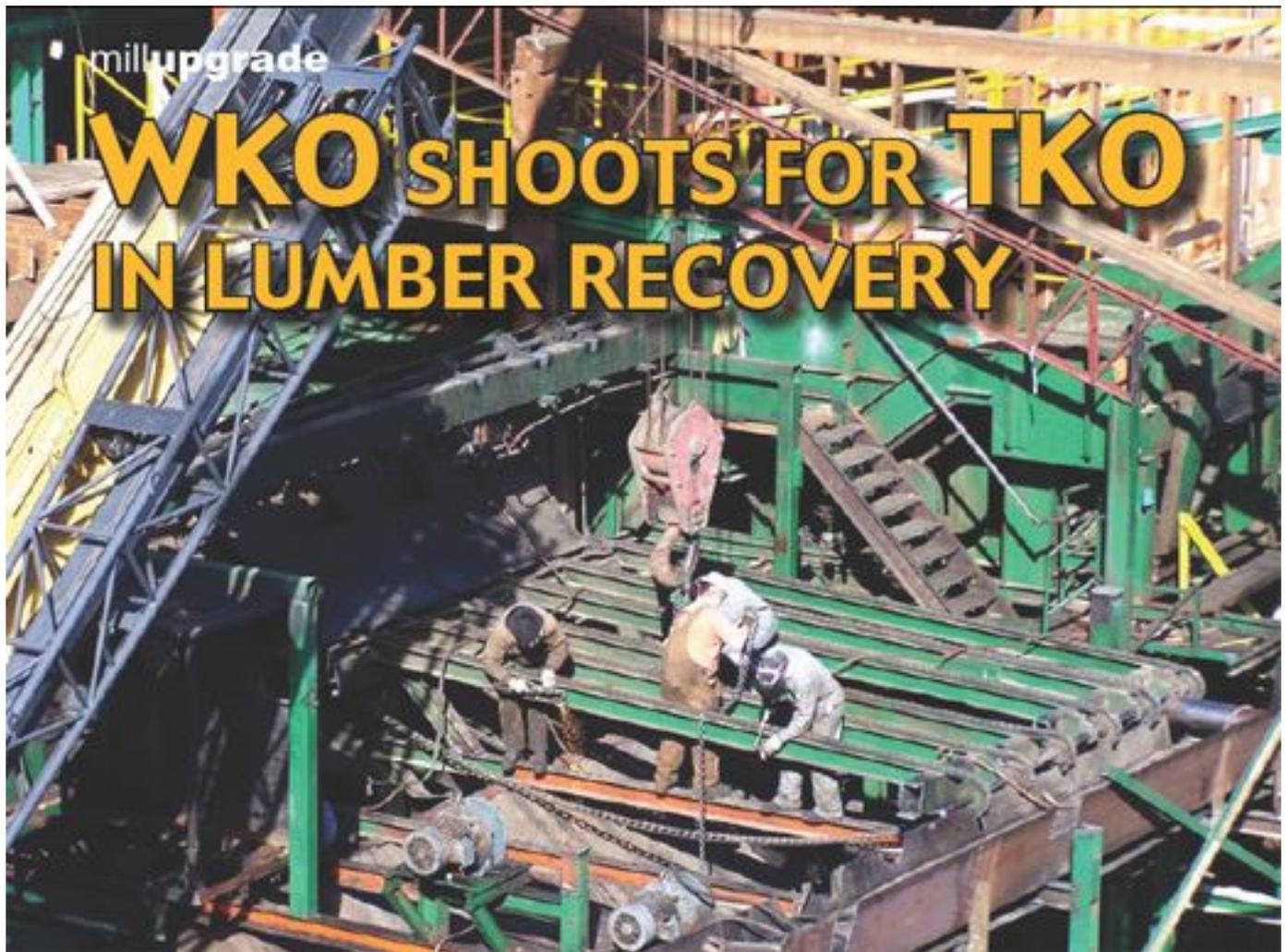


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*WKO hired construction companies and electricians for the upgrade, but also used its own workforce as well. Some were doing woodwork; some were cutting and welding. "I just can't say enough about how well our guys did on this project," says WKO's Bill Wilkins.*

WKO Inc has upgraded its sawmill in Washington State with a new USNR double length infeed set-up with some special features, and the company's owners are banking that the new configuration will result in higher recovery.

*By Diane Mettler*

Bill Wilkins, one of the owners of the WKO Inc sawmill in Carson, Washington, has been building and retooling mills throughout his career. So the latest multi-million dollar project, which entailed taking out two older primary breakdown systems at the mill and replacing them with one very efficient new breakdown system, wasn't something new to him.

What was new was that USNR—or any other company to Wilkins' knowledge—had never installed a double length infeed with a twin horizontal inline before. It was a risk he was willing to take, though, for better recovery.

Months before the upgrade, Wilkins traveled around, meeting people and researching double length infeeds. "We had considered the double length three times since 2003," he says. "This time, though, it got the nod. For all the right reasons, it was time to do this project."

It involved a group—and family—decision. Besides Bill Wilkins, the company is also owned by brother, Brad Wilkins, and their father, Bill Wilkins Sr.

The primary reason for the project was to increase recovery at the mill, which runs about 50 per cent Douglas fir and 50 per cent white fir. WKO had already experienced success with a double length infeed system at its Mt Hood mill, in Hood River, Oregon. “What we did at Mt Hood, we couldn’t get in Carson fast enough,” says Wilkins.



The difference between the Mt Hood mill and Carson mill would be the twin horizontal inline with the double length infeed. “It was pretty much the first time that it had been done,” he adds.

In February 2008, WKO began tearing down the portion of the mill that would house the new machinery. By the end of April, WKO had to shut down the mill entirely, and for the next two months it focused solely on getting everything ready for the June 30 start-up.

The project, as expected, produced mounds of mill debris. But from that debris they were able to accumulate \$140,000 worth of scrap steel. “We also recycled all the straight conduit that we could. And a few conveyors got moved around and put into different spots, too,” says Wilkins.

WKO hired construction companies and electricians, but also used their own workforce as well. “We had around 24 of our own guys working on the job—all various qualities and capabilities. Some were doing woodwork; some were cutting and welding; some were just cleaning up; and others were digging holes for concrete for the building. We actually built all the infeeds to the edgers ourselves, too,” Wilkins explains. “I just can’t say enough about how well our guys did on this project.”

On June 30, WKO started up the line on schedule, and is now hoping to see a good return on its investment and hard work. So far, Wilkins is pleased. “This is a very powerful breakdown machine. With a quad, with the chip heads in front of it, and with the twin horizontal inline—where 100 per cent of the centre cants go through the twin horizontal—it really gives you a lot of ability to break the log down.

“Most mills make four-, six-, eight-, 10-, and 12-inch centre cants,” Wilkins adds. “Here we make almost all narrows—mostly 2x4s. We get much more recovery by doing that, and the sales return is as good or better. And if the market improves enough for us to want to make 10-inch or 12-inch, we can reprogram the optimizer within a couple of minutes.”



The USNR system also allows WKO to run a large range of log sizes. The system can handle up to 28-inch logs, although WKO doesn’t anticipate running anything larger than 24 inches in diameter. And it can take logs as small as five inches in diameter.

“We replaced our small log Sharp chain and our slant headrig carriage with one primary breakdown. So it took a pretty big envelope machine to do that,” comments Wilkins.

When the company decided to build the line, they also decided to invest in the best technology

in every area. “That ranged from whose equipment we bought, to whose optimization system we used, whose control system, whose chip heads, whose drives for the variable speed drives—everything,” says Wilkins.

One of their top choices included Vancouver, BC-based Arrow Speed Control for all the variable speed drives and the servo drive for the double length. “The servo drive is a much more responsive, powerful drive system, which we put on the double length chain to get more control over the line,” says Wilkins. “It’s those kinds of things that make a big difference.”

WKO also put variable speed drives on the chip heads. “If you don’t, then your chip length changes,” says Wilkins. “Now, between logs, we’re actually changing the rpm of the chip heads based on the feed speeds. It’s a big expense to do that—those two drives are \$30,000 a piece. But it was important to put the best technology we could on this whole line because this is a one-time shot for us.”

After lengthy discussions over the decision to put the twin horizontal inline with the double length infeed, Porter Engineering of Richmond, BC, was selected to supply the optimization and control. “Porter supplied two, three-head scan zones, one at the auto-rotation conveyor, and another on the double length infeed,” says Wilkins. “Porter’s controls are on the entire line, from the log deck through the outfeed of the twin. The entire 300-foot line is controlled by Porter and one operator.”



*The primary reason for the upgrade was to increase recovery at the WKO mill, which runs about 50 per cent Douglas fir and 50 per cent white fir. “All the timber we buy, we buy on the open market or we buy on the timber sales program,” says Bill Wilkins. “That means we have to be diligent in how we buy logs, how we mill lumber, and how we sell it.”*

Before start-up, there was some training involved. Wilkins sent an electrician and Bob Tresch, who’s in charge of programming the Porter system at Carson and the Mt Hood mill, to train with Porter.

USNR was also at the mill for two weeks lining up the machines prior to the start-up. “This is really our first big purchase from USNR, and Bruce Johnson, our project manager, has just been really good to work with. We’ve been very happy with USNR, and the group from the Woodland, Washington office proved to be outstanding with regards to workmanship, engineering, delivery and follow-up.”

The new set-up has meant changes. Line operator Doug Farris, who had been a carriage operator for years, says, “It’s been a steep learning curve.”

Wilkins adds: “Moving from carriage operation to this system is a different ball game. Whoever runs this machine has to keep his eye on about 300 feet of equipment.”

When it came to a budget for the project, Wilkins had a range from best case scenario to worst case scenario. This project came in “on the bottom end” of the best case scenario, says Wilkins. “It’s the first time I’ve ever done that well, but I think it’s just because I’ve done enough of this that now I’m not quite so optimistic, I’m a little more realistic.”

And although the project focused on the new technology and improved recovery, there were other benefits built into the budget. For example, the building that houses the line was extended to the log deck. “For the first time in all the years we’ve been in the business, we’ll have a covered log deck. No more mornings where we come in and there’s 18 inches of snow on the logs,” says Wilkins. “We just really did everything we could to make operations better.”

The new line will help make WKO’s lean crew even more efficient. “We’re running around 75 people, and that includes log buying, road building and everything else we do. That’s down from around 120 people a couple of years ago,” says Wilkins.

“Our plan now is to run this mill one shift, nine hours a day, for the next year. It’s how we run our veneer plant and how we run our Mt Hood sawmill. If the market were to bump up a little bit, and for some reason we wanted more production, we’d run some Saturdays, some overtime, things like that. But, we don’t anticipate that.”

Wilkins doesn’t understand other mills that are running full out. “We can’t compete in that market. We have to essentially make money with every log we buy and right now it’s pretty hard to do that. With two shifts, all we’re doing is just driving the market down and increasing our raw material costs, making our problem worse.”

He adds that the company has to work smart to stay in today’s game. “We don’t have our own timberland. All the timber we buy, we buy on the open market or we buy on the timber sales program. So we’re at risk every day for remaining in business. That means we have to be diligent in how we buy logs, how we mill lumber, and how we sell it. We’re clearly looking to this machine to increase our recovery, along with an increase in quality and production per shift.”

And the numbers are starting to happen. “Today our log count per shift is running at an average of 4,600 in nine hours, with a design spec of between 4,000 and 5,000 per shift, depending on log size,” says Wilkins. “And production capacity will range between 325,000 and 425,000 board feet per shift.”

So for WKO, it’s looking like the decision to take the “inline risk” with their new mill equipment set-up has been worth it.

## **The WKO Upgrade Project: Who Supplied What...**

### **Equipment Suppliers:**

USNR

Porter Engineering

Arrow Speed Controls

### **Contractors:**

Rawlings Industrial Inc

T and L Enterprises, LLC

Advanced Mechanical

West Coast Industrial System

Dessert Industries, Inc

Richardson Construction

Wrangler Construction

**Vendors:**

Applied Industrial  
Paramount Supply

Airgas

Steel Yard

Hoffmeyer

Platt Electric

Cascade Controls

Redwood Plastic

LG Isaacson Co

Ferguson Enterprises Inc

Burton Saw

Wilcox and Fagel

PacHoe