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CENTRALIA MOVES INTO POST-STARTUP

**INSIDE:
CLOSING THE GAP
WITH PERFOREX**

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CLOSING

THE GAP

North Florida Lumber closes the 'execution gap' at its high production southern pine mill.

BRISTOL, Fla.

Several months have passed since you read, "Defining the Gap" in the 2006 July/August issue of *Timber Processing* magazine. At the end of that article you were asked to think about the fact that the "Execution Gap" can be a



North Florida Lumber in Bristol, Fla. invested in management systems and training for its staff. The result has been a \$36/MBF improvement.



Left to right, Roger Nichols, Derek Bethke, Andy Beatty, Arthur Wilson, Finley McRae, Shawn Norris, Timmy Cardinale



Managing all of the details that contribute to recovery has led to a 7.6% improvement.

\$20-\$35/MBF opportunity that is totally within your control, and also to consider your plan to go get it. Well? How are you doing? If you are like many others, our guess would be that you haven't had time, or you've made some progress, but would admit that you still have a long way to go.

This article focuses on a sawmill that did make the time, and as a result has made a great deal of progress, \$36 per MBF to be exact. That sawmill is North Florida Lumber (NFL) in Bristol, Fla.

With an established name for high quality products, NFL has been a successful business for more than 25 years. Despite that success, the profit-minded management team is always looking for ways to improve its operations. Having heard from respected industry peers that improved ex-

ecution added significant returns to their operations, NFL engaged Perforex to conduct a two-week assessment of the 100MMBF+ southern yellow pine dimension mill. NFL management wanted to know what opportunity existed for them.

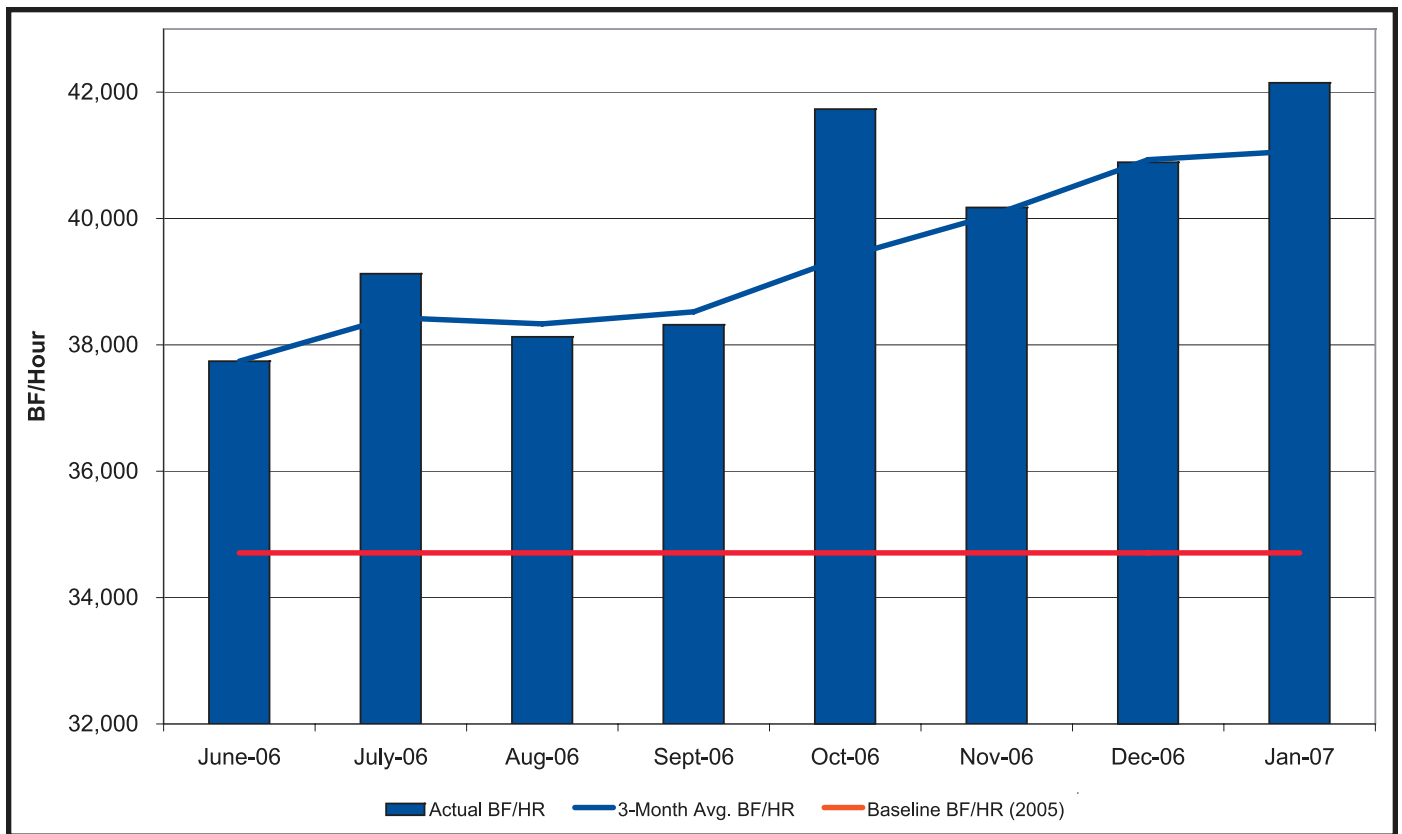
Initially, Finley McRae, NFL's owner, was a little skeptical regarding the magnitude of the financial possibilities. "We had a tough time getting \$20-\$35/MBF through our heads," he says. "That is a lot of money." McRae certainly knew there were several opportunities. "We've always had a tendency to focus on production so we knew we could improve our preventative maintenance and downtime capture practices. We also knew that we needed a more aggressive quality program and given our log costs, any improvement

to recovery would be of particular interest." Production, quality and recovery all represented known opportunities, but what was missing were the specifics.

On the production side, the sawmill was operating at 69% efficiency (a measure of actual production through the bottleneck machine center compared to its analytical capability). This level of efficiency meant an average hourly cut of 34,700 BF. On average, 31% of each and every hour was "unproductive" time. So, what was happening? As any sawmiller knows, it could be one of a hundred things...no logs, jam up at the infeed, a stuck board, a broken sprocket, large gaps between logs, etc. Why were these things happening over and over again? Was it skill issues? An incomplete un-



Changes to optimization strategy, improved sawmill predictability, and a more aggressive quality control program has provided a 3.3% improvement in product mix value.



Downtime reduction, preventative maintenance and operator-led SOPs have helped to improve productivity by 18%.

derstanding of downtime? An ineffective use of maintenance resources? In this case it was all of the above.

There were several quality, value and recovery (QVR) opportunities as well. First, an analysis was conducted to see if a more profitable optimization strategy could be employed, and second, a detailed study of what was actually being manufactured versus the prescribed solution from the optimizer was done. Both studies revealed some interesting findings with big dollars associated with each, but they also generated more questions. What should the mill’s optimization strategy really be trying to achieve? How much profit did that “priority item” actually generate? Is 80% sawmill predictability as good as it can be, and if not, what is causing the loss and is it controllable?

The answers to the above questions were not known, but more critical was that these types of questions were not being asked. Performance management questions should be triggered by formal systems that focus on the controllable elements of an operation. These systems need to be used in a disciplined way to understand where performance gaps exist and to develop action plans to address these gaps. The NFL management team did not have these complete systems, nor did their supervisors have the necessary tools to drive the right operator behaviors.

It was clear at the end of the two-week assessment that there was a strong focus on board feet per hour, lumber recovery and grade, and not enough emphasis on the hour-by-hour details of the operation. The analysis illustrated very clearly that managing more of these details would add \$18-\$32 per MBF to the bottom line (the wide range was a result of various production schedules).

IMPLEMENTATION

The management team agreed with the assessment findings and decided to partner with Perforex for 10 months to develop and implement effective management systems, train staff on using them, create a culture of sustainable performance improvement, and ultimately generate significant results. When Arthur Wilson, General Manager, was asked, “Why not develop and implement these systems on your own?” he replied, “It’s almost impossible to do this by yourself—most operations are running so lean these days and many just don’t have the internal expertise to set it up right and then make it happen in a timely manner.” It was time to close the execution gap.

Before discussing what happened next, let’s recap:

The execution gap was significant, \$18-\$32 per MBF.

The identified opportunities were in production and QVR.

They existed because of incomplete management systems and skill issues.

Closing the gap did not require major capital upgrades or a change in strategy.

Representing the biggest opportunity, sawmill production was tackled first, followed closely by QVR in the sawmill and then in the planer mill.

In sawmill production, Perforex had to move the mill’s focus from board feet per hour to all of the details that contribute to this result. Put another way, the focus needed to shift to key performance indicators—things like logs per minute, efficiencies, downtime, preventative maintenance completion, and maintenance hours scheduled—and away from result indicators such as board feet per hour.

An early step was to develop user-friendly management tools to capture all downtime occurring at each key piece of equipment. Many people say that this information is already captured by PLCs. Have a closer look. How much downtime is actually captured compared to how much throughput was actually lost? Who looks at the data? How much of the collected data is actionable?

Now that there was a clear understanding of what was happening (i.e. the downtime details), the next step was to understand why it happened (root cause

Key Success Factor	Result Indicator	% Improvement	Financial Impact (\$/MBF)
Production	BF / Hour	18.0%	\$ 11.08
Quality / Value	Product Mix Avg. \$ / MBF*	3.3%	\$ 9.32
Recovery	Tons / MBF**	7.6%	\$ 15.42
Total Financial Impact			\$ 35.82
* normalized for market price fluctuations			
** normalized for log size / quality			

Closing the “execution gap” resulted in improvements to the key drivers of sawmill profitability—production, quality/value and recovery. Total financial impact is more than \$35/MBF.

analysis) and what to do about it (action plan development). Developing this formal process and training operators and supervisors on using the system was an integral part of what led to the improvements in the mill.

Wilson comments on using the system to drive improved results: “By looking at our key performance indicators on a daily basis, we got focused on the specific issues that were negatively impacting our performance. For example, we believed that most of our downtime was mechanical and some of it certainly was, but just as big an issue was operational downtime, with one example being startup effectiveness. Once this specific issue was identified we developed standard operating procedures for starting up each piece of equipment; the impacts from this action plan have been significant.”

In addition to reviewing daily operating results, the new management system allows for historical trend analysis. This has led to the identification and then elimination of large and recurring downtime items, and not just in a “band-aid” type manner. Besides generating corrective maintenance work orders, a process that was tightened up using the current computerized maintenance management system, a comprehensive preventative maintenance program was put in place. “Now when that broken sprocket bites us, we get it added into the PM so it won’t happen again,” Wilson says.

Wilson notes that at first there was some “push back about managing in this rigorous a manner, but once the results started to show and employees saw the benefits, everyone got on board.”

The results have been significant. Com-

pared to the historical production rate of 34,700 BF/hour, the mill now regularly operates, with a similar log diet, at more than 41,000 BF/hour. This represents an 18% gain in productivity and an \$11/MBF financial impact.

In addition to production and maintenance, QVR systems were put in place to manage items like optimization, sawmill predictability, size control, manufacturing quality, and grade and trim accuracy. By using these tools to manage the details that drive QVR results, NFL added another \$9/MBF to the value of its product mix and improved recovery by \$15/MBF.

All told the improvements added up to more than \$35/MBF. “At the end of the day, it’s about the money. It just makes financial sense to manage the day to day execution of the mill in this way,” owner McRae says.

When talking to employees, it has had just as big an impact on morale. Timmy Cardinale, Operations Manager, says, “Coming to work these days is a lot more enjoyable. Everyone is on the same page and people are held accountable for results in their area. I wouldn’t have said this 10 months ago but the management systems have actually made my life easier.”

SUSTAINABILITY

NFL has seen significant improvements as a result of more effective execution, but how sustainable are the management systems that are now in place? The senior management group’s response, “It’s like anything else, if you don’t maintain them, they will fall apart; we are fully committed to making sure this does not happen.

The great thing is that we now have a system; our success does not rely on one or two key individuals. Everyone understands how the management systems work and how they are used to run day-to-day operations. It has just become the way we do business.”

Furthermore, “the financial impact of slipping back to our old ways is just too great. We’re not looking to go back to where we were operating, we are looking forward to making further improvements from today’s performance levels.”

McRae summarizes his views on the importance of effective execution. “With the large capital investments that are made on equipment, and the competitiveness of the industry, it just isn’t good enough to look at the end results. It’s all about day-to-day execution; going forward, success will depend on it.”

The operational and financial successes realized through improved execution at his NFL mill have led McRae to engage Perforex to apply the same methodology and rigor at his Rex Lumber operation in Graceville, Fla. North Florida Lumber has set the bar high, but McRae is confident that Rex Lumber is up for the challenge. **TP**

This article was submitted by Perforex, which partners with forest products companies to significantly increase their profits by implementing operating practices, systems and disciplines that drive results and create sustainable performance improvement. To date, Perforex reports it has closed the “execution gap” at more than 120 operations including 60 sawmills, and that results are guaranteed. Visit Perforex at www.perforex.com or contact them at info@perforex.com or 1-87-PERFOREX.

Closing the Execution Gap

With Perforex, you get more than just performance improvement experts. You get sawmill knowledge and experience that enables your operation to maximize production, quality, value, recovery and ultimately profit.

Results are guaranteed.



Perforex has partnered with over 60 sawmills across North America to improve performance and profitability. For more information on

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