Part 1: Time to Go Lean?

Current economic conditions are causing companies to learn to be lean in ways they hadn't thought of a short time ago. Businesses that have been around for decades are failing because of missteps or failure to adjust to new market realities. We can all think of big names we thought would never go away. Lehman Bros., Bear Stearns, and in our own industry Pope & Talbot represented institutions with long histories of success that couldn't survive this downturn in the economy.

The fall from some of the most prosperous years in history to some of the worst, in so short a time has been unprecedented. Manpower reductions and curtailments are a way of life while the wood products industry balances to a home building and remodeling market in decline. Though conditions are rough good companies are also taking time to rethink their business and find the next reincarnation that will take them back to prosperity.

In the last few years, from a manufacturing standpoint, companies have been focused on long production runs at higher and higher speeds. This served the market well when consumption was strong and customer demands few. However, for the next several years a new plan may be necessary if mills are to meet or exceed customer desires. Construction projects will be smaller and custom fit solutions will be necessary to capture orders and build volume. This calls for a change in the manufacturing focus to keep unit costs low as size, specie, and product batches shrink. It may be a good time to take a look at the concepts of LEAN manufacturing.

The major premise of lean manufacturing is the elimination of waste. This concept isn't new...mills have been focused on eliminating waste for years. High raw material costs have driven all wood products manufacturers to conserve fiber. The less wood fiber put into the waste stream the more that goes into a high value finished product. But LEAN waste elimination is different. It's the elimination of wasted time and effort in the manufacturing process so each step is optimized and performed as efficiently as possible and is repeatable over and over again.

Capital projects often reveal deficiencies in an organizations ability to maintain or expand levels of efficiency. These projects are normally fairly large and impact many areas of an operation. They test the will and determination of the implementation team and bring to light new issues and challenges. It's difficult to predict all the impacts a given project might have and the need for the elimination of wasted steps and time becomes evident and urgent. We have to remember that there are many ways to look at every challenge and more than one way to bring about a satisfactory resolution. The BEST way isn't always the most obvious and deep examination may be necessary to peel away the inconsequential obstacles that hide success. Some companies are experiencing this phenomenon as they upgrade their planing operations.

Impact of New Planer Technology			
Product:	2x4 dimension lumber		
		Old Planer	New Planer
Batch Size:	(Board Feet)	600,000	600,000
Planer Speed:	(Lineal Ft/Min)	1,200	3,000
Batch Run Time:	(Minutes)	750	300
Shift Time:	(Minutes)	480	480
Shifts to Process:		1.56	0.62

Automated lumber grading, improved material handling techniques and radically different planer technology have dramatically improved the capacity to surface lumber. Like others before it, this enhancement to planer technology represents a quantum leap forward in efficiency and the ability to reduce unit costs. Many mills have installed high speed planers in recent years to take advantage of these enhanced capabilities. This scenario provides an example of how LEAN techniques can be applied. Higher speeds mean batches of lumber are processed in less time. In most cases mills have worked to lengthen production runs to keep changeovers to a minimum and gain the maximum advantage from expensive capital projects.

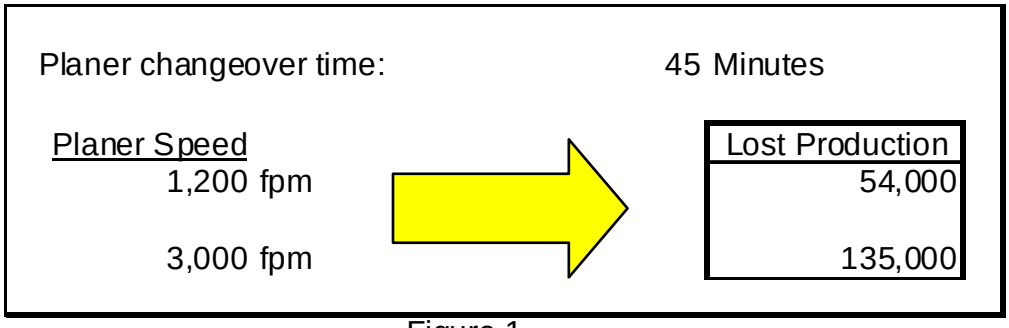

Figure 1

Driving this is the reality that as speed has increased the cost of downtime has also increased. Figure 1 illustrates the difference between an older planer running at 1200 fpm and a new one running at 3,000 fpm. The difference in opportunity cost for a 45 minute changeover is significant. It's like losing a couple of truckloads of lumber every time a changeover is necessary. Over time it adds up and can make a significant difference in the bottom line of the mill.

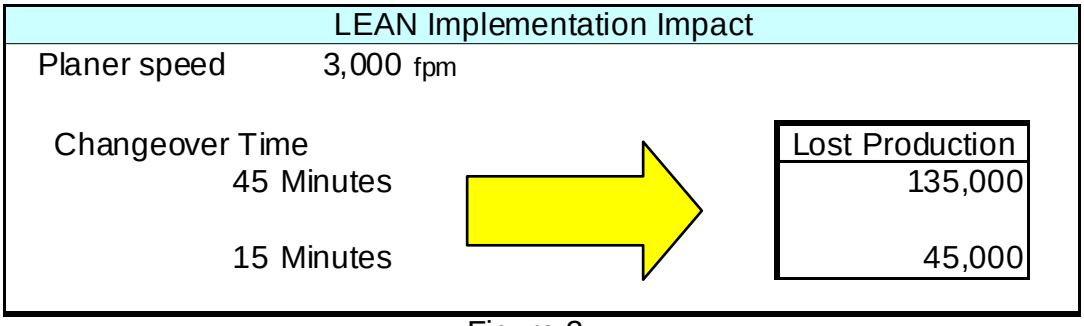

Figure 2

But imagine the difference if instead of focusing on longer production runs the team focused on reducing the time it takes to change over. Suppose changeover time could be cut from 45 minutes to 15 minutes. Figure 2 shows that the elimination of wasted time during a changeover can have a dramatic effect equal to or sometimes more than increases in speed. The focus on eliminating wasted steps during a changeover may allow you to live with the same batch sizes utilized before the new installation. This translates into lower inventories, a better looking product, and better cash flow for the mill.

LEAN has been around for many years. Its origins date back to the early 1900's with Ford Motor Company though most modern day concepts were developed by the Toyota Motor Company. Over the years it has evolved into a management discipline practiced across a broad spectrum of businesses. In spite of its wide use, the concepts and terms of LEAN are only now making it into the vocabularies of many wood products facilities.

Companies that embrace LEAN learn to specify value creation in the products they make from the perspective of the final customer. They identify the steps which create the most value and expose the steps that are wasteful. By eliminating wasteful steps manufacturing flow is improved and costs reduced. A focus on the customer results in more products being made in the right quantities that meet customer needs. As companies integrate LEAN into their business and seek to perfect concepts and practices they continuously improve quality and eliminate even more waste.

Benefits of Successful Lean Implementation

- Lower inventories at all steps in the process.
- Greater manufacturing capacity.
- Smaller production runs.
- Improved quality.
- Higher gross margins.
- Improved teamwork and morale.

The commodity nature of high volume lumber manufacturing means that satisfying the customer will often depend on how the product is graded, packaged, delivered and inventoried. Customers will have new requirements as we come out of this recession. Successful companies will learn what those new requirements are early in the game and adjust manufacturing to meet them. Integration of new metrics associated with LEAN can reinforce new learning and lead to sustained improvements. Diligent application of LEAN concepts and practices will help companies provide additional services and features while keeping costs down.

Successful implementers of LEAN avoid the "management flavor of the month" stigma. This can be difficult to do but outside help is available and can make the difference when trying to adopt new ideas. Implementation is more often beneficial when LEAN is used as a tool and a change agent as part of an overall strategic reconfiguration of the business toward continuous improvement. It's easy to say an organization practices continuous improvement. It's much harder to develop a culture that applies it relentlessly every day. Economic times like these are ideal for reexamining everything the company does. For some it can also be the time to set a new course for the future and prosperity.

Part II: The key concepts of LEAN with examples for our industry.