

Lean Manufacturing at Roseburg Forest Products

A Case Study – Dillard Stud Mill

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Outline

- Background on RFP
 - What inspired RFP to pursue Lean
 - Integration of other methods/tools
- Implementation
 - Structure & adaptations based on forest industry context
 - Training & technical assistance
 - Challenges
 - ‘Sustaining the gains’
- The benefits & lessons learned
- Next steps

Roseburg Forest Products

- 76-year old, family-owned forest products company
- 3000+ employees
- FSC-certified (175K ac., many facilities C-o-C)
- Mills in OR, CA, MT, LA, MS
 - Corporate office in Dillard, OR
 - Regional business office in Atlanta
 - 625K ac. of timber in OR & CA
- Producers of:
 - Softwood lumber
 - Softwood veneer & plywood
 - Hardwood plywood
 - EWP
 - Particleboard & specialty panels
 - Thermally fused melamine
 - Wood pellets
 - Softwood chips (export)

Inspiration – Why Lean?

- Came from top management
 - New COO from metals industry; had positive experience with Lean Manufacturing
 - Pushed by COO, company president signed off
- Assumed a 3-year implementation path; about 18 months into the process now

Why Lean?

Integration of other methods/tools

- Lean is a philosophy first, then a collection of tools
 - “Glass wall” was first tool used, display all relevant metrics in an area, workers review each day
 - “Kaizen newspaper” used on glass wall for improvement suggestions vs. prior approach of telling maintenance personnel
- Compared to other methods, Lean is more ‘on-the-ground’, requires a team effort
- Six Sigma - used in problem-solving for lean projects
- Theory of Constraints used in specific areas

The Glass Wall



The Glass Wall



Structure

- Tony Flagor hired and placed in charge of program
 - No formal 'lean implementation leader' but topic leaders – one for 5S, one for the glass wall, one for Kanban, etc.
 - Topic leaders are floor supervisors
 - Utility people added on each shift to 'backfill' supervisors
- Structure deemed best based on observing lean in other facilities – 'many hands make light work'
- Intent was never to have supervisors perform 'daily lean tasks' then return to primary duties; Lean is a new way to approach all job duties

Adaptations for Industry Context

- Lean mantra – one piece flow, reduce work in process (WIP)
- Initial pushes at RFP to:
 - Saw-to-order (i.e., become a custom sawing facility)
 - Reduce log yard inventory
- Eventually abandoned both approaches
 - For cutting to order, large sawmills have too much tied up in processing infrastructure, e.g., changing over a planer for short runs of different thicknesses is a major commitment
 - Tried reducing log yard inventory but it didn't work; reduced WIP led to paying exorbitant prices for logs

Training

- 2 people sent to 60-hour trainings
- Hourly leads and salaried supervisors:
 - Used tools for 4 months then attended 2, 1-week training sessions ('Lean University') taught by a consulting firm
 - Individuals became 'senseis' on specific topics
- Hourly workers:
 - Attended 6-hour 'canned' presentations
- Consulting firm did post-training follow-up audits to reinforce learning



Challenges

- “We’ve seen all this before” – belief that this is the latest fad and no real change will result
- Resistance from some supervisors : lean = more work (more on this later)

'Sustaining the Gains'

- Tried and true approach – managers must be consistent, talk it, live it, breathe it
- Document projects and successes on Glass Wall

Project Case Example



Project Case Example



Benefits

- Several positive cultural changes:
 - Supervisors are now delegating certain duties like audits vs. feeling they needed to do all the tasks themselves
 - Supervisors now feel it's ok to make changes
 - Employees asking questions, posting suggestions on board vs. telling maintenance personnel
 - Now sales asks about new products (e.g., can we make 3x8's?)
- 5S has been phenomenal

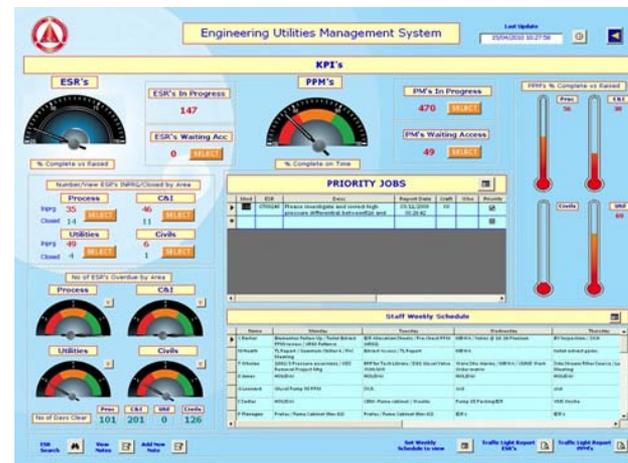
Lessons Learned

- Train first then use tools or vice-versa?
 - Workers used tools for 4 months then attended 2, 1-week training sessions taught by a consulting firm (Lean University) - not the original intent, but worked out well
- Senseis (subject area specialists) a great way to structure implementation
 - However, to build confidence, would send each specialist to a 1-week training & have them see operations in other industries
- 6-hour 'canned' presentations for hourly workers a waste of time; 30-60 minutes is enough
- Should celebrate success more; 'goal thermometer' installed a bit late
 - Need to keep selling Lean to everyone; remind people of their suggestions and the results



Next Steps

- Need to get Kaizen events going
- More 'A3' projects – a form (1 piece of paper) used to help scope-out intermediate-scale questions
 - Used for problem-solving (root cause analysis)
- Develop process 'dashboards'
 - Up-to-the-minute data on key process metrics (oil temp., air pressure, yield, etc.)
 - Visible to operators on 70" monitors – the 'visual factory'



Conclusions/Recommendations

- Top management commitment
 - 'Walk the talk'
- Have workers get experience then train
- Implement via (trained) subject area specialists
- The 'visual factory'
- Adapt approach to industry context

Questions?

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