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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