Who’s this guy

Name: Bernie Schluter
Position: Technical manager (Kaituna Sawmill)
Background:
35 years experience
Machining.
Boilers
Kiln Drying.
CCA Treatment.
Sales / Shipping.
Sawmilling.
Operations management.
Quality Systems (ISO).
Process improvement.

Nelson Forests (Kaituna Sawmill)

Employees: 70
Sawmill:  - Slant double cut carriage with USNR full solution optimisor
        - Board edger (4 moving saws, 1 fixed)
        - Single band Resaw
        - Newnes Trimmer (USNR optimisor)
        - 50 bin Bin-sorter
Drymill:  - Planer (Weinig)
        - Treatment plant
        - 7 Kilns (High temps and ACT kilns)
        - Dry Chain
Kaituna Sawmill

**Starting point 2006**
- Conversion  Green…56.33%
  - Dry……55.49%
- Grade recovery ? – Just cut wood!
- Production  168m3/day (avg)
- Loosing money !!!!!

**Key Issues Identified**
- Log quality
- Scanner calibration
- Carriage Optimiser Parameters
- Production:
  1. Production rates. (Slabber head)
  2. Downtime.
- Conversion
  1. Green Conversion.
  2. Dry conversion.
- Grade recovery
- Machine centre alignment.
- Staff engagement
Process

• Measures in place to establish current position.
• Apply standard costing to understand what the priorities are.
  Eg $/hr of lost opportunity
• Base improvement decisions on facts and data, not gut feelings.

Process

• Standardise work practices to get every task done the same way. (Systems)
• Share key information with staff.
• Expect accountability from staff.
• Use Process Improvement tools to drive improvements. Eg: Pareto charts, Cause and Effect diagrams, Time series charts.
**Log Quality**

- Quality check 100% of logs or significant sample against supplier specs.
- Scale volume comparisons against invoice volumes. (Log weight to volume Conversion)
- Reject substandard material.
- Only pay for usable volume.

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**Size Control 2006**

- Aim sizes 2006
  - 25mm target = 27.0mm
  - 50mm target = 52.0mm
- Standard Deviation
  - Within = 1.0mm
  - Between = 0.9mm
Size Control
The basics

• Basic measurements using L-Size
  1. 5 boards, 4 times per day from each machine centre.
  2. Focus on thickness.
• Keep a diary by machine centre
  1. Record average thickness.
  2. Standard deviation (Within / Between).
  3. Percentage of board on size.
  4. Operators name
  5. Saw number
  6. Any maintenance work completed
• Aim Size reduction
  1. 0.1mm reduction monthly until limit is reached

Sawshop Initiatives
The basics
Establish saw and machine specs

Saw Specifications
• Length
• Gauge
• Saw thickness
• # of teeth
• Tyre lines
• Tooth profiles
• Pitch
• Gullet area
• Max / Min saw width
• Min / Min Kerf
• Avg depth of cut.
• Optimum Feed speed
• Min / Max tooth bite

Machine Specifications
• Make
• Model
• Serial number
• Rim speed
• Strain
• Guide pressure
• Crossline (Wheels)
• Crossline (Guides)
• Feed speed
Sawshop Initiative
Improvements

• Standardise saws to set specification.
• Number individual saws
• Decisions on change to improve:
  1. Increase guide pressure
  2. Increase strain
  3. Increase rim speed
  4. Check feed speeds
  5. Take advantage of current saw technology
• Side grinding. 2009
• Stellite tipping. 2010
• Future: Hit and miss grinding, Q cams, Saw gauge reduction, CNC grinding, etc etc.
Sawshop Initiatives

2010 Headrig Daily Diary

(Bad news)
Size control 2010

- **Improvements**
- **Aim sizes 2010**
  - 25mm target = 26.1mm
  - 50mm target = 50.1mm
- **Standard Deviation**
  - Within = 0.5mm
  - Between = 0.5mm
- **Taper:** 7% improvement
- **Wedge:** 10% improvement
- **Snipe/Flare:** 22% improvement
- **Snake:** 3% improvement
- **Cutting speed:** 15%+ improvement

Operator Performance

- **Monitor Resaw waste system**
  Simple measures that measure waste over a 20 minute period.

- **Measure cut rates**
  Performance measurements.
  Avg daily cut (2010)
  189m3/day
  Why could we cut 259m3 in one day???
Downtime monitoring
The basics

- **Long duration, low frequency incidents** (4hour trials)
  - Measure lost production time (one minute or longer) at key machine centres.
  - Priorities top 5 areas of loss.
  - Fix or improve them.

- **Short duration, high frequency incidents**
  - Measure lost production time (3 seconds or longer) at key machine centres.
  - Priorities top 5 areas.
  - Fix or improve them.

<table>
<thead>
<tr>
<th>Machine alignment</th>
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</thead>
<tbody>
<tr>
<td>Regularly checked</td>
</tr>
<tr>
<td>Independently checked.</td>
</tr>
<tr>
<td>Written reports</td>
</tr>
<tr>
<td>Near enough isn't good enough.</td>
</tr>
<tr>
<td>Measures in place to monitor performance. (Between board std dev)</td>
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Auditng

- Independent audits.
- Get the bolshie auditor.
- Often you can’t see the forest for the trees.
- Sometimes you won’t like what you hear.
- Keep an open mind to criticism.
- Act to remedy key findings.

Grade recovery

- Grader audits (regular)
- Production monitoring (daily)
- Grade recovery monitoring (daily)
- Don’t cut what you haven’t got a sale for.
- Write stock value to $0 after 4 months.
Profitability

• Cost of Production down $20/m3
• 2009 Best profit figures despite recession
• Last quarter of 2010 was best ever.

Philosophy:

“It’s easier going down hill, but the view is from the top”