



Getting to Root Cause: how Tenon Kawerau Sawtech Team Reduced Saw Changes by 80% and Saved \$41,000

The Tenon Kawerau Site employees over 220 people and processes up to 280,000 m³ of lumber each year. The Saw Tech Micro Focused Equipment & Process Improvement (FE&PI) team completed their activities on the front section of the sawmill where first cuts are taken from the logs. The Tenon Kawerau Site were the winners of the Kiwi Cup at the May 2004 TPM³ Networking Forum in Rotorua.

The team presentation started in what appeared to be an operating theatre, but we soon learnt that these were no ordinary Doctors and Nurses. They were Saw Doctors and Saw Nurses!



The team told the audience how they had “nursed” the equipment, increasing the sawmill capacity by 2.25% as well as saving the company \$41,526 per annum. They had reduced unplanned saw changes from 15 per week down to 3. This not only improved capacity but the team was able to free up the saw doctor’s time. As sawing quality had improved, the sawmill found the amount of material going to the resaw was reduced by 50%. The extra capacity on resaw is now used to produce another product, eliminating the need for extra processing down stream.



The team’s mandate was to reduce unplanned saw changes by 80%, achieve a greater than 2% increase in OEE and have a significant impact on Timber quality. The first step the team took was to clarify the definition of unplanned saw changes:


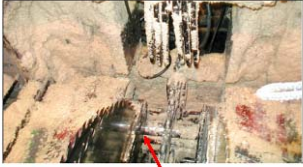
Any saw change where the saw change occurred during scheduled run time or the saws had cut less than 450m³ of production.

Using fish bone diagrams and Why-Why analysis, the team came up with a large list of possible causes for unplanned saw changes. During this time they had to gather more data and prioritise their activities, basing their decisions on facts. They only had 6 weeks so they had to resist the temptation to rush out and fix everything!

The team had 4 key areas they wanted to focus on. One example was saw alignment, which when measured, was found to be 13mm out of alignment between the front and back centering rollers. The team worked with off site contractors on developing a procedure suitable for Kawerau site. They then had to communicate to everyone what was happening, as well as trial the new alignment procedure. Part of the new procedure was that they adopted a symmetrical cut pattern.

Below are two examples of the team’s Improvement Sheets.

Sawmill Micro FE & PI TPM Improvement Sheet 1.5			
Team: Saw Tech Team	Location: Kawerau Sawmill	Initiator: Micro FE & PI Team	Initiated Date: 04.08.2003 Completed Date:
1. Item: SKR/ KS Clean out behind KS.	2. Problem: Grating blocked and sawdust chute	3. Target: Identify the cause and reduce the amount by 50% whilst not impacting on conversion or production.	
4. Current Situation 	5. Improvement  Gratings added		
6. Results: Reduction in Sawdust belt jam-ups in basement from slithers (approximately 0.3% OEE gain)			

TPM Improvement Sheet			
Team: Saw Tech Team	Location: Sawmill	Initiator: Willie Cairns	Initiated Date: 04.08.03 Completed Date: 20.08.03
1. Item: Saw blowers	2. Problem: Blocking - causes saw overheating and diving which causes out of spec timber	3. Target: As per the mandate	
4. Current Situation 	5. Improvement  Build up of sawdust Blowers reduced build up		
6. Results: Reduction in the need to stop and clean the saw area			

Learnings

TPM³ requires a lot of learning by doing. As part of this, the team shared some important learnings:

- They really needed the cycle to be a 12-week cycle so that people were not stressing out. The scope of the mandate determines the time frame of the team. Some micro-teams can complete their mandate in short periods, providing the mandate has a narrow scope.
- Root Cause Analysis can determine the cause if enough 'whys' are asked. They learnt to keep persevering with their "why" questions.
- Its not always the big changes that make an impact. Some of the teams changes were small, however they had a big impact. There are lots of low-cost high-impact solutions that can be implemented when people are given the tools and systems.
- The Minutes sheet and Progress Report Sheets are different and both need to be used. Meeting structure is important to ensure effective meetings are conducted.
- Need to be able to measure the impact of improvement. For example they used to blow the saws down for about 2 minutes every hour—but the team found this information was not accurately recorded as a loss of operating time.

Need to photograph the improvement prior to changing it. Recording improvements is important, so taking a photo before any changes makes life easier (even with the ability to doctor digital photos!)

TPM³ "Aussie Cup" Finalists Announced

Congratulations go to the following teams who made the finals of the Australian TPM³ Networking Forum "Aussie Cup" Competition

- **Simplot Australia - Kelso**
Finding Nemo Team
- **Simplot Australia - Kelso**
F-Troop Team
- **Visy Industrial Packaging - Drouin**
The Maintenance Team

The Centre for TPM (Australasia) wishes all teams the best of luck in the final presentations at the upcoming Australian TPM³ Networking Forum.

The Centre for TPM (Australasia)

A membership based organisation specialising in TPM³
(an enhanced and expanded Australasian version of 3rd Generation TPM)
providing

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CALENDAR OF EVENTS

INTRODUCTION TO TPM³ (AUSTRALASIAN 3RD GENERATION TPM)

2 DAY INTERACTIVE WORKSHOP

Adelaide	10 & 11 August 2004
Melbourne	18 & 19 August 2004
Auckland	TBA March 2005
Brisbane	TBA March 2005
Sydney	TBA March 2005

TPM³ ACTION 2004 ANNUAL NETWORKING FORUM

Echuca - Moama
Rich River Golf Resort 25 & 26 August 2004

TPM³ PILLARS

SERIES OF THREE, 1 DAY WORKSHOPS

Auckland	8, 9 & 10 September 2004
Sydney	15, 16 & 17 September 2004
Melbourne	13, 14 & 15 October 2004

Day 1 - Cross-Functional Core TPM³ Pillar (FE&PI)
Day 2 - Area-Based Core TPM³ Pillars (WAM / OEM)
Day 3 - Support TPM³ Pillars (MEM / L&SI / NE/PM)

TPM³ INSTRUCTOR'S / LEADERSHIP COURSE 5 DAY LIVE-IN WORKSHOP

Wollongong
Quality Hotel City Pacific 15 - 19 November 2004