

## Norske Skog Tasman PIT: Threading Together

Threading Together was a theme that was woven through not only the Performance Improvement Team's final presentation, but all of the team's activities. The team halved downtime, due to re-threading the paper sheet onto the Paper Machine after a stoppage or sheet breakage, from 400 min per month to less than 200 min per month. Number 3 Paper Machine (PM3) Line Manager, Kim Brown, estimated the savings at \$60,000 per month.

Norske Skog is a world leading producer of newsprint and magazine paper. The Tasman site based in Kawerau New Zealand, operates two Paper Machines, and a Mechanical Pulp Mill.



**Above:** PM3 Paper Machine – the focus of the PIT Improvement Activities on site.

The site kicked off Two Performance Improvement Teams (PIT) in November 2007. These two teams each focused on a specific problem over a 16 week period involving 12 team meetings. Anthony Burt - CTPM Managing Navigator NZ, attended the PM3 team's final presentation in March 2008. The PM3 team focused on reducing threading and break back downtime at the Norske Skog Tasman Site.

The team's initial investigations found that there were often several large threading losses each month, particularly at a start up or after a long machine break. The general re-threading machine losses were less than their mandated target. An operator survey identified some of the equipment items that were creating frustration.

They also discovered that of 39 maintainable items:

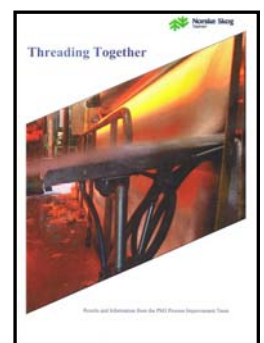
- 14 had PM checks
- 25 items appeared to have been overlooked
- Training and technical information about threading was very engineering orientated
- Information was spread across multiple operation manuals for each section of the paper machine and did not give enough specific guidelines for operators

Analysing the threading losses proved more difficult than the team initially thought. A key initial improvement was changing the measuring systems to allow each of the stages of threading to be measured. This allowed Root Cause Analysis to occur with regards to the high loss events.

A key part of the team's communication strategy and initiative was a booklet titled "Threading Together" shown below.

**Below:** The "Threading Together" Guide created by the PM3 Team as a part of their improvement activities.

The team members took great ownership of their project, demonstrated by the threading together guide which featured an introduction and photo of the team leader Boyce Kingi.



Quoting from this introduction:

***"...we believe that bringing our machine up to world class standards requires a step by step approach. By focusing our attention on one key component of its operation we can best find ways to eliminate the issues."***

The comments following the final presentation summed up the teams fabulous work. One of the team members commented that with a background of difficult union negotiations there is huge shop floor commitment to work together between operators, fitters, engineers and management to make the company successful.

The team got great support from all the operators and maintenance staff at the site, and PM3 Line Manger Kim Brown was very impressed with the level of ownership displayed by the team and their commitment demonstrated by team members working outside their comfort zone.

Ernie Hacker - Mill Manager, commented that one of the site's champions of the Norske Skog Production Systems (NSPS), a global Norske Skog improvement Programme, had remarked at the PIT team mid way presentation that this was one of the better NSPS presentations he had seen. Ernie wished that this person could have witnessed the team's final presentation, as he felt it would have been one of the best and they would have been even more impressed.

Mr Hacker praised the team's efforts to make everyone's jobs easier, for their in-depth root cause analysis which at this stage has meant no big pile ups and no drier screens off, and has enabled staff to utilise this otherwise "downtime" to invest their time and efforts into more productive pursuits.

Ernie also commented with regards to improvement activities that "You need input from all of your people. Management don't have all the answers and can't be expected to solve all the problems. The people making your product are often in the best position to solve these types of problems."

The improvement activity cycle has also proven to be a great employee morale booster and motivator. One of the operators on the PIT team commented that after thirty years working on site, this was the first time he had been involved in "something like this" where he felt he had made a real difference and a valid contribution.

Over the 12 week cycle, team improvements included:

- Better measurement of the threading losses and times for each threading step
- A root cause analysis of any threading that took longer than 15min
- The creation of the *Threading Together* guide detailing the key threading process in one document including:
  - Sharing of learnings between shifts regarding the best techniques for threading
  - A trouble shooting guide for commonly experienced problems
  - Extra steps to avoid difficulties often experienced with start ups or long breaks
- Of 39 possible items 27 now have Planned Maintenance checks and 12 not requiring any
- A manual override control systems page for testing all the threading related solenoids
- Design and timing changes to the orientation of dryer to calendar chutes and air showers
- Creation of a design and installation plan for a new threading chute has been implemented

Once again congratulations to both of the Performance Improvement Teams, Operators and Maintenance personnel who participated and provided input into the improvement activities and the Management Team at the Norske Skog site in Kawerau for their efforts.



For further information on TPM<sup>3</sup> – Australasian Lean, please contact Anthony Burt, CTPM Managing Navigator NZ on +64 272 408 509, CTPM Australasia on +61 2 4226 6184 or visit [www.ctpm.org.au](http://www.ctpm.org.au)

