



The Centre for TPM (Australasia)

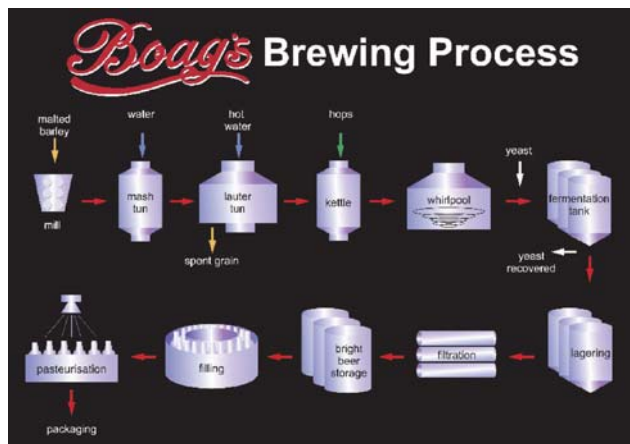


The Passion and Terror of New Equipment

New Equipment. Nothing else seems to be capable of evoking both passion at the thought of seeing it go in, and terror with the thought of the commissioning process and the seemingly inevitable ironing out of bugs that goes with it. Do you expect it to work first time, every time? There has to be a better way!

So thought 14 people who gathered at J Boag and Son on 6 September 2006 to participate in a Learning Group Meeting focussing on New Equipment Management.

The afternoon started first with an excellent plant tour, hosted by Richard Benwell, Brewery Manager, and Nick Roy, Packaging Manager. “This is not the usual plant tour that we give people”, warned Richard. “This is the one for the people really interested in the process!” He wasn’t wrong. The participants were treated to a detailed tour of the entire plant, highlighting the entire manufacturing process from raw ingredient receivables to final despatch and all the bits in between.

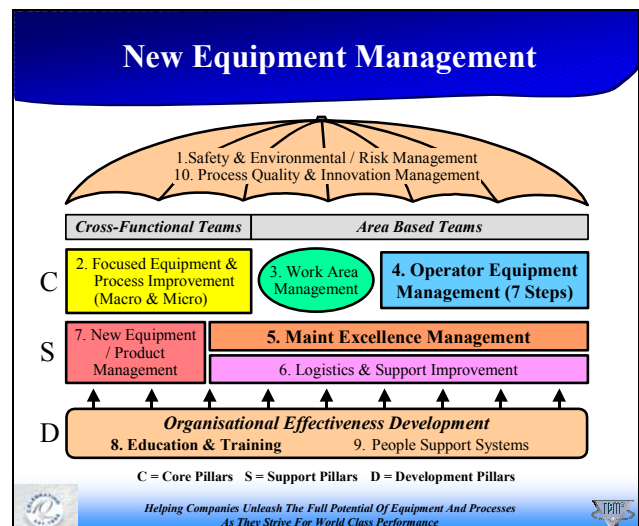


One of the things that really stood out during the plant tour was the blend of old and new. To meet the demand for their growing brands there has been more than \$36 million of capital investment in filling equipment, boilers, brewing and storage. The first stage of this was completed in 2004 with the installation of a new high speed bottling line, and is still going on with the addition this year of additional fermentation capacity. This has had to be done in a manner that is sensitive to the 120 year history of the site and the constrained layout of the plant. The past

3 years have certainly been a period of significant investment and change for J Boag and Son. Every year, the company produces over 40 million litres of beer and employs approximately 150 people.

Following the tour, Learning Group members then participated in an interactive session examining some of the issues surrounding New Equipment Management (NEM). The first part of this involved completing a “NEM Innocence to Excellence” rating tool. This helped participants to reflect on their own experiences with New Equipment installation. Issues, concerns and first hand experience raised by participants included:

- Getting suitable involvement
- Compressed time frames
- Not meeting budget
- Better instructions during commissioning on how to run the machine
- Underestimation of resources
- Communication with all stakeholders



After a humorous examination of the Ellsworth Air Force Base “Foam Test” the group reviewed the differences between normal project management and the principles of New Equipment Management. The TPM³ Pillar of New Equipment Management uses the key driver of Life Cycle Costing (LCC³) to consider all elements of the activity cost. This includes:

- The capital cost of the equipment

- The operating cost of the equipment (labour, consumables)
- The ongoing maintenance cost of the equipment.
- The cost of poor equipment OEE (availability, rate, and quality)
- The cost of training and making the equipment “TPM³ friendly”
- The cost of disposing of the equipment.

What is New Equipment Management?

- **Applies “Prevention at Source” and “Defect Avoidance” TPM³ methodology to New Equipment design and installation.**
- **Focuses on key drivers including Life Cycle Cost (LCC³).**
- **Uses a cross functional based team to ensure engagement and buy in with the final processes.**
- **Builds on experiences from previous TPM³ activities**

Helping Companies Unleash The Full Potential Of Equipment And Processes
As They Strive For World Class Performance

A key principle of TPM³ is that of defect prevention. This can only be achieved through thorough planning and testing of concepts up front. This principle is also at work in the NEM pillar. Through a cross-functional team, key stakeholders in a project have the opportunity to participate and share information, ensuring that the final outcome is successful and meets people’s needs. This is more than just conventional design and planning. Opportunities also need to be taken to test things out, where possible, through the use of test equipment, models, simulations, manufacturer trials, etc. Whilst this may require more planning and work up front, the subsequent implementation will be seamless.

The NEM pillar is divided into a number of separate areas. These can be used either individually or in combination depending upon the business’s need. These areas include:

Macro NEM	Entirely new packaging line or significant equipment investment
Micro NEM	New equipment item in an existing line, for instance a new filler in a packaging line
Micro NPM	For a new process (eg: planning or other similar process).
Mini Micro NEM	Apply visual controls and make a piece of equipment TPM ³ friendly to help operability and identify defects at the earliest possible time, perhaps after or as part of a major overhaul.
New Area Management (NAM)	Layout of a new area to ensure that there is a high level of workplace organisation and that people have the tools that they need to do their job
Micro FE&PI / Mini Micro FE&PI	Used in conjunction with NEM to assist with equipment commissioning

Practical examples of New Equipment Management were shown from other manufacturing sites completing their TPM³ journey. A Mini Micro NEM and a Micro NPM example was discussed from two Fonterra Australia sites.

To conclude, Learning Group participants completed the “Buying a New Car” exercise in Life Cycle Costing³. This exercise illustrates the importance of involving all people involved with the new equipment in an appropriate cross-functional team. It’s only through involving people in this way that potential defects can be designed out of the new equipment or process.



For further information about TPM³ contact Tim O’Shea – TPM³ Senior Navigator from The Centre for TPM (Australasia) who is based in Elizabeth Town, Tasmania on 0428 525 349.

