

Breakout Group Feedback NSW IMRt November 2005

Topic 1 - Implementation experiences with TPM/Lean.

What is key to getting it right to make it sustainable. Using external providers vs internal resources. Experience in implementing TPM/Lean components separately.

Lean/ TPM

- Outsource/ insource experts
- Use external experts but also in house
- Need to assess and modify approach for Australian environment

Comitment of Management is the “Key” (demonstrate)

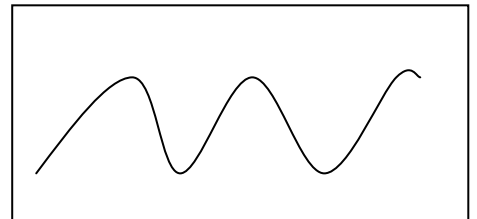
- Passion for it to sustain (be involved)
- Need to go right to the top (Electrolux)
 - Alcoa – “Lean” as ABS (Alcoa Business Systems)
 - Qantas “Lean/ 6 sigma” – Right to the top
 - Dedicated department reports to top executive
 - COO at RTCA

16 Tools (Lean/ TPM)

- Which have impact?
- Prioritise

Stability First

- 5S & Visual Factory
- TPM
- Quick C/O, Standardise Work



Quick Wins/ Low hanging fruit

- Careful not to have project focus

Need long term process

- Line management inclusion to make sustainable
- As well as Top Management commitment needed
- Work group “buy in” – They need to see it will improve their lot
- Credible facilitator/ Leader
 - Needs a person with “low key approach” so that it is not leader personality driven, so that workgroup develops commitment.
- Spend more time/effort on developing informal “Leaders”
- Recruit volunteers for projects who have “axe to grind” or “pet project” or “problem to solve” (who will commit easily)
- Recruit volunteers with the right personal traits “own highly polished cars”

‘Deep Clean’ aspect of TPM requires stripping of components

- Possible negative impact on reliability?
- Intended to show operators how equipment is assembled and how it works
- Focus on problem components (6 big losses)

When you find 70 jobs to do, how to sustain the momentum/effort (Management demonstrates commitment by auditing)

Using external expert makes sure you have process to manage/monitor properly (tracking lines- simple bar chart)

- Better than Gantt Chart (visual progress indicator)
- Can be intimidating for work group

GM (upper management) understanding may be limited but will relate to the business case/benefits

OEE

- How to measure Quality (in Mining Industry)
- How to get middle management to use this
- Give OEE to upper management and external
- Lower management can use other measures as well if they like
- Audit/Calibrate systems that measure it

Autonomous Maintenance

- Want to make defects visible (tags etc. like conveyor idlers)
- Does not fit with CMMS?
- Map of drill rig – red dots on map

Visual Factory

- Pressure gauge markings – What should the pressure be?

Don't bite off too much, be realistic

- Pick a small area (Qantas B767 A check)
- Get this resolved/ build momentum
- Ensure funding to tools and equipment
- Make progress wherever you can get it – Be flexible
 - Don't expect 100% on everything

Quick Changeover

- Video can be intimidating (their idea – ownership of tools used)
- How to engage contractors used (reduced job times will reduce their profits)

Reliability Engineer key to providing data for process

Need to put effort into Maintenance guys so they understand the benefits to them.

- Pilot area good

Management Commitment

- If it falters can have a very large negative effect

Make sure workgroup does the hard stuff as well as the interesting improvement projects

Topic 2 - What stops us doing what we know we should be achieving?

(It is easy to conceptually know what should be done [to improve out maintenance systems] but achieving it seems so difficult sometimes. Why?)

What Stops Us doing.....?

Issues Identified

- Culture Issues/ Complacency
 - Changes in people and they way they do things ie resistance to change/Continuous Improvement
- Lack of Strategic Direction/Leadership
 - Definition of actions and priorities that individuals should take (not clear enough)
- Lack of Killed Labour
 - Impacts on quality and quantity of maintenance such as Rework and Job Overruns
 - People filling temp roles
 - Replacements not available
 - Unfinished work
 - Suffered detail
- Fire Fighting
 - Impacts on planned labour and other work
 - Costs are also impacted
- External Pressures
 - Customers (Unrealistic demands)
 - Financial & Budget Factors
 - Other depart underperformance (demands)

Improvement Ideas

- Culture Issues
 - Involve management and company personell to deliver from the top down
 - Have workshop to communicate philosophy on continuous improvement and seek their commitment
 - Empower your people to make it happen
- Lack of strategic direction/Leadership
 - Provide clear direction to employees of what they are meant to be doing and all expectations/ boundaries etc
 - Audit your department for
 - Allow individuals through communications to improve on prioritising work & risks etc
 - Development a leadership team for continuous improvement
- Lack of Skilled Labour
 - Mentoring
 - Develop apprentices
 - Invest in people (Distance (Local))
 - Training

- Retention (Incentives etc)
- Fire Fighting
 - Improve through Reliability
 - PM Completion
 - Service Requirements (Regular)
- External Pressures
 - Communicate & develop understanding (Both ways) eg Customers/Production
 - People must work together by articulating ideas, solutions, risks and impacts etc (production & maintenance)

Topic 3 - Equipment Strategy

Including benefits of defining equipment criticality etc.

- Measures – Maintenance Management
 - Hours, usage, nature of operations
- Need to review criticality of items periodically
 - OEM issues
- Management of Change
 - Modification control
 - Management of change
- Defining Criticality; From 0 to X
 - Heavily regulated – Air Transport, Nuclear
 - Implications of MHF