



Presentation by:
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Outline of Presentation

The Challenges of Introducing Operator Equipment Care

1. Why do it?
2. Establishing the discipline
3. Engaging Maintenance to Support
4. Getting the learning sequence right
5. Pitfalls to watch out for

1. Why do it?

People before Tools

What is Operator Equipment Care?

- ☐ Operators keeping the equipment clean
- ☐ Operators conducting inspections for Maintenance
- ☐ Operators ensuring Basic Equipment Conditions of no looseness, no contamination and perfect lubrication
- ☐ Operators finding equipment problems at the earliest possible time using their own inspection checklists
- ☐ Operators minimising unnecessary wear and deterioration to the equipments caused by poor operation
- ☐ Operators ensuring equipment conditions do not lead to quality problems

1. Why do it?

People before Tools

Defining Operator Equipment Care

Applying Prevention at Source to Equipment so as to significantly improve Overall Equipment Effectiveness (OEE = A x R x Q) while reducing maintenance costs

Early detection of equipment defects while practicing defect avoidance

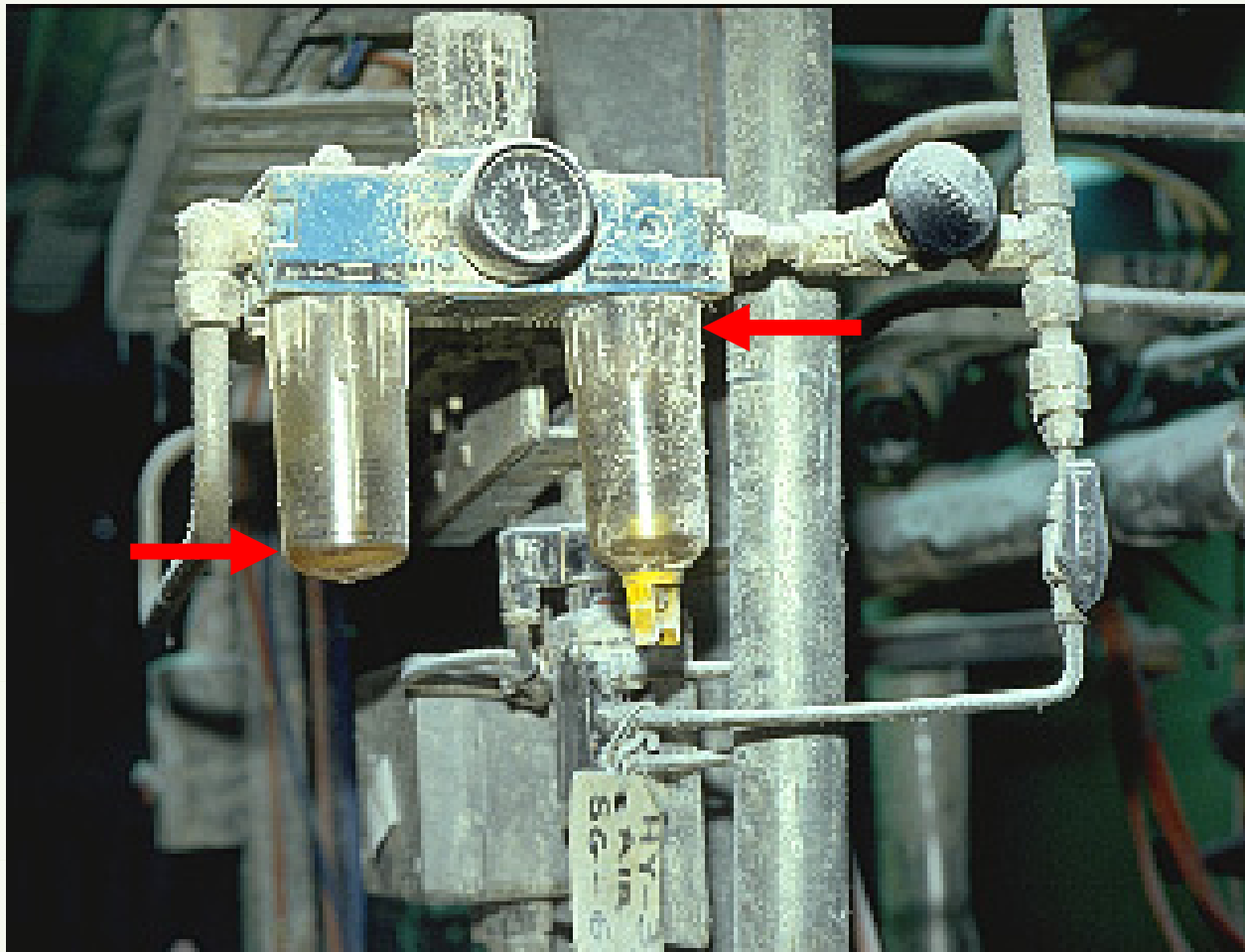
equipment defect = anything that could lead to early or accelerated deterioration

defect avoidance = stopping equipment and quality defects from occurring

1. Why do it?

People before Tools

What do we want all our Operator to be able to do to care for their Equipment?



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People before Tools

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- Recognise equipment defects or abnormalities at an early stage
- Initiate and ensure rectifications are promptly carried out

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1. Why do it?

People before Tools

What do we want all our Operator to be able to do to care for their Equipment?

- Recognise equipment defects or abnormalities at an early stage
- Initiate and ensure rectifications are promptly carried out
- Understand equipment functions and mechanisms
- Detect causes of equipment defects or abnormalities
- Diagnose equipment problems at an early stage
- Effectively communicate equipment problems to Maintenance
- Carry out minor servicing of their equipment

2. Establishing the discipline

People before Tools

The need for Team Structure

The best way for all Operators to take on new skills is for them to work in Area Based Teams of 4-8 which includes a designated working Team Leader, and dedicated maintenance support

- Competent working Team Leaders need to be in place with no more than 7 direct reports
- Production and Maintenance rosters need to be aligned
- Dedicated Maintenance who have the time and capability to teach operators what to look for (eg equipment defects), are allocated to support the teams on a regular basis

If you aren't confident you have the right structure, don't start

2. Establishing the discipline

People before Tools

The need for Time

Typically we need 2 hours a week per shift or 5% of normal work time per week

How do we find the Time?

1. Improve Overall Equipment Effectiveness by more than 10% before starting
2. Reduced Planned Maintenance time by having majority of planned maintenance work completed while equipment is stopped each week for the 2 hours
3. Change the equipment so it easy for operators to find the problems

If you aren't confident you have the time, don't start

3. Engaging Maintenance to Support

People before Tools

Often the challenges we find:

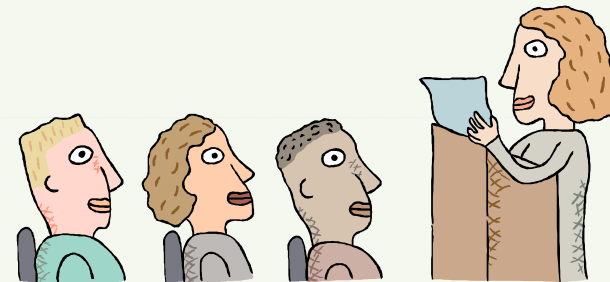
- Possible barriers between Maintenance vs Production
- Maintenance people being cynical about operator equipment care
- Maintenance people not having the time

What do we need to achieve:

- Free up the time of Maintenance people
- Create a maintenance support capability that can respond to small problems and issues identified by the operators
- Stabilise the Production Plan so we can ensure regular (weekly) Clean for Inspections to develop Operator Skills and allow Maintenance to fix the defects



Ask the Audience



3. Engaging Maintenance to Support

People before Tools

Pathway to engage Maintenance support:

- Ensure Maintenance and Production rosters are aligned or supportive
- Get maintenance people involved in Cross-functional improvement teams focused on improving OEE
- Use Time Lost as a driver for initiating Maintenance on-going Continuous Improvement activities to free up their time
- Establish a defect management system so that minor defects don't have to go through the work order system
- Get maintenance people involved in the Clean for Inspection activities so they can work along side the operators and assist them in understanding what a defect is.

4. Getting the learning sequence right

People before Tools

Create time for Area Based Team Improvement Activities

- Cross-functional Teams to improve OEE by at least 10% and build relationships

Preparation for Work Area Management

- Establish flexible team (4-8) with designated working Team Leader and maintenance support

Work Area Management (1 Cycle then on-going)

- Establish discipline within the workplace so that everything is orderly, neat & tidy
- Improve communications across all shifts
- Standardise Work across all shifts

Operator Equipment Management (7 Steps over 9-11 Cycles)

- Step 1 Identify & Rectify Equipment Defects
- Step 2 Address Sources of Contamination and Apply Visual Controls
- Step 3 Establish Perfect Lubrication and enhance Clean for Inspection Standards & Procedures
- Step 4 Understand Equipment Functioning (typically 6-10 modules over 3-5 cycles)
- Step 5 Finalise Inspection Standards & Procedures
- Step 6 Understand Quality and Equipment relationships
- Step 7 Maintain Zero Breakdowns, Zero Quality Problems, Zero Accidents or Incidents

5. Pitfall to watch out for

People before Tools

1. Starting Operator Equipment Care without first establishing an effective communications line between shifts to allow agreement before changes are made.
2. Think Operators know what a defect is even after you have explained it to them
3. Thinking all operators know how to properly clean equipment
4. Not having all crews on all shifts in the one area or at one line progressing at the same level of learning
5. Not having the maintenance roster aligned to the production roster so at least 1 dedicated maintenance person can be allocated to each production crew involved

Final Word

***Operator Equipment Care should be a
journey of development for your
operators, maintainers, and support staff***



Zero Breakdowns

Zero Quality Problems

Zero Accidents or Incidents

Achieving the target OEE and reducing Maintenance Costs by 50%

How can we help you develop your in-house capability?

4 Page Operator Equipment Management Steps 1 to 7 Summary

OEM Step	Time Frame	Description	Issues to Address	Dimensions of OEM						
				People	Equipment	Documentation	OEE Impact	Goal Aligned Measures Impact	Value to Clients	Key Competency
P1	<i>Second half of WAM Cycle</i>	Preparation for OEM-1	Defect Tagging System	Agreement between Production and Maintenance	Determine most appropriate means to visually identify defects on the equipment	Establish equipment defect rectification system			Set foundations for successful OEM activities	Defect Tagging application and management System capability
Stage 1: Cleaning for Inspection										
1	Complete within 12-14 week Cycle	Identify & Rectify Equipment Defects	Identify and rectify equipment defects through regular Clean for Inspections Enhance WAM activities	Commence Team Skills training. Get operators familiar with equipment. Understand the importance of cleaning for inspection to find defects	Commence rectification of equipment defects. Commence working towards Basic Equipment Conditions	Establish Clean for Inspection Checklists, Standards and Procedures	Planned D/T may go up 1-2 percentage points to allow extra time for Clean for Inspections, however remaining Losses should reduced so OEE increases by 3-5%	Safety & Environment Quality, Equipment	Start to reduce Risk of unexpected plant & equipment failure Build greater ownership and care of the plant & equipment.	Identification of equipment defects and related problems
2	Typically Complete within one 12-14 week Cycle (Depends on condition of plant)	Address Sources of Contamination and Difficult to Access Areas	Eliminate Sources of Contamination and Difficult to Access Areas so as to improve time spent on Clean for Inspection activities. Introduce Frontline Problem Solving to address an issue / problem. Enhance WAM activities	Progress on team development activities. Introduce structured approach to identify root cause of problems through Frontline Problem Solving	Improvements to reduce / prevent contamination. Apply Visual Controls to assess equipment condition Continue working towards Basic Equipment Conditions.	Refine Clean for Inspection Checklists, Standards and Procedures	Impact on unplanned downtime, reduced speed, minor unrecorded stoppages, scrap & rework so OEE increases by 3-5%	Safety & Environment, Quality, Equipment People (eg Productivity, Morale)	Continue to reduce Operational Risk People learn systematic approach to analyse problems and implement improvement.	Root Cause Analysis of Problems and Implementation of Improvement Actions
P3	<i>First half OEM-2 Cycle</i>	Preparation for OEM-3	Standardise Lubricates and lubrication practices	Micro MIT team to rationalise and standardise all lubrication across site (automate where appropriate)						
	<i>Second half OEM-2 Cycle</i>		Develop training material and process for Lub training of Ops	Micro E&T Lubrication Skills team to develop training plan for Operators						

Review past webinars on YouTube or via our webpage: www.ctpm.org.au



How can we help you develop your in-house capability?



Preparation for Production Area Based Teams & Work Area Management / 5S

Edition 18

Many sites introduce 5S into their Production areas only to be disappointed as improvements do not sustain. CTPM has addressed this issue by first establishing Area Based Teams with good ownership to their workplace then through an inductive process of emotive questioning mapped out an engagement approach to 5S we call Work Area Management. This approach not only results with a sustained neat and tidy workplace with a 'place for everything and everything in its place' but more importantly a workplace where standards are agreed and respected across all shifts.

This approach also provides a very solid foundation for going forward with Operator Equipment Management so as to achieve a failure-free (zero breakdowns); trouble-free (zero quality problems); and safe workplace (zero accidents & incidents).



Preparation for OEM-1

Activities for CI Co-ordinators and CI Production & Maintenance Champions

Edition 8

Operator Equipment Management Step 1 is the start of the 7 step journey to achieving Zero Breakdowns, Zero Quality Problems and Zero Accidents or Incidents.

Typically a 2-3 year structured development process involving 10-12 cycles of education, demonstration, doing and reflection so as to achieve set outcomes.

Each cycle spans 2-4 months commencing with a half-day kick-off workshop and concluding with a team presentation.

Mid-way through the cycle the team puts forward its improvement plan to allow the Leadership Team to review progress and, if necessary, adjust the boundaries to ensure the team will be successful.

The Operator Equipment Management 7 Step process is supported throughout by People & Leadership Development activities

Suggested Pre-reading:

Preparation for Area Based Teams & Work Area Management

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How can we help you develop your in-house capability?

OPERATIONS EXCELLENCE - PEOPLE BEFORE TOOLS

1-day Interactive Workshop

Do you need to:

- Improve reliability of your plant and equipment?
- Stabilise component life to enhance your Preventive and Predictive Maintenance activities?
- Improve the performance of your plant, line, and equipment?



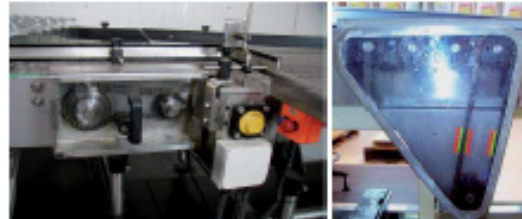
By the end of this workshop you will learn:

- The Impact of the Tyranny of Time in addressing equipment problems
- How to apply Prevention at Source to equipment and stop small problems from becoming big problems
- How to establish a system to ensure equipment defects identified by Operators are addressed promptly to ensure they are motivated to keep finding more

CREATE OPERATOR EQUIPMENT CARE

by engaging your operators to understand and care for their equipment

- Recognise the most effective sequence to revitalise your plant and equipment
- Define a pathway to develop the skills of your Operators
- Establish a means to get equipment defects addressed rapidly



This 1-day Workshop will assist you to develop the capability to prevent equipment defects from occurring at your site using tools such as Defect Tags; Clean, Inspection and Lubrication Checklists; and Visual Controls.

During the workshop you will be involved in defect identification activities.

**Next Public Workshop:
Melbourne VIC - 26 March 2015**

Venue: TBA

For Host or In-house workshops contact CTPM
Head Office on +61 2 4226 6184 or
visit www.ctpm.org.au

This outstanding workshop is designed for all levels of production who is interested in improving their operator capability to support Operations Excellence



OPERATIONS EXCELLENCE - PEOPLE BEFORE TOOLS

1-day Interactive Workshop

Do you need to:

- Create an environment where Maintenance are keen to assist Operators to understand more about their equipment?
- Develop your Maintenance personnel so they can train and support Operators in equipment care and inspection activities?
- Have Maintenance and Production work in harmony to enhance the performance of your plant and equipment?



By the end of this workshop you will learn:

- The Importance of a new direction for maintenance to enhance equipment reliability to support Operational Excellence
- The activities that Maintenance will need to support, and the Implication on Maintenance Resources
- The Impact of training Operators to carry out detailed equipment Inspections

ENHANCE MAINTENANCE CAPABILITY

to support Operator Equipment Care

- Understand the Impact Operators have on reliability
- Recognise the role of looseness, contamination and lubrication has on the variability of component life
- Discover the most effective way to train operators to identify equipment defects at the earliest possible time



This 1-day Workshop focuses on how maintenance needs to work in harmony with Production to enhance plant performance.

During the workshop you will be involved in a hands-on simulation to demonstrate how best to train operators in understanding the functioning of their equipment.

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Question Time



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