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# **Preparation for OEM-1**

**Activities for TPM³ Co-ordinators and TPM³ Production & Maintenance Champions**

**Before reading this document we suggest you re-read  
Preparation for Area Based Teams & Work Area Management**

**Edition 6**

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## 1.0 Background

### 1.1 Purpose of Work Area Management

Work Area Management is an ongoing activity for Area Based Teams, which typically commences with a designated 12-week cycle to engage all employees and significantly reduce their frustrations with their work area and to induce a significant improvement in standard practices and communications between shifts.

*WAM typically involves 1 focused WAM Cycle followed by ongoing WAM activities as the team progresses through their OEM Activities.*

*The initial WAM cycle should support:*

- The establishment of Area Based Teams of 4-8 operators with a designated working Team Leader where the team has demonstrated flexible Base Skills (each Operator can cover for each other operator in their team as they achieve the production plan)
- The establishment of WAM standards across all shifts so as to promote the development and acceptance of Standard Work practices
- The establishment of discipline within the workplace so that everything is orderly, neat & tidy
- The establishment of an agreed process (e.g. TPM<sup>3</sup> Improvement Sheet sign-off) to gain agreement and support for all improvements implemented within the Defined Production Area

### 1.2 Review of the Key learning's from the WAM Cycle

Did the allocation of Focus Points work effectively to develop individual responsibilities?

What can the Teams do better regarding each Focus Point?

Have the WAM Improvement Areas been effective or is there a need to change or clarify boundaries for the Improvement Areas?

Have the WAM teams established an effective means to communicate between their shifts to ensure agreement before improvements are implemented (i.e. are TPM<sup>3</sup> Improvement Sheet sign-offs and Noticeboards effective)?

Have standards for WAM (i.e. replace things in correct location after use) been established between shifts that all shifts are now following?

Has a supervisor / manager WAM monitoring system been established?

Are all team members contributing to their team's achievements?

Have the Team Leaders developed in their understanding of leading Formal Improvement Activities so they will require less support during OEM-1 formal team meetings and activities?

Have all ABTs progressing WAM achieve 80% scores in their 3 Self-assessment Sheets that have been verified by the TPM<sup>3</sup> Co-ordinator and relevant TPM<sup>3</sup> Champion?

What training requirements have been identified through the Team Skill Assessment conducted in Part 9 of WAM cycle so we can improve each team's performance?

Skills & Abilities	Shift A Score	Shift B Score	Shift C Score	Shift D Score
1. Effective Team Members				
2. Running Effective Meetings				
3. Presentation Skills				
4. Decision Making & Problem Solving				
5. Dealing with Difficult People				
6. Conflict Resolution				
7. Negotiation Techniques				
8. Appreciation of Individual Strengths & Weaknesses				
9. Giving & Receiving Feedback				
10. Planning & Prioritising				

**Scores per Answer:** Often = 5 points; Sometimes = 3 points; Rarely = 1 point

**Lowest score indicates opportunity for improvement**

What Team Skills module will be picked for each OEM-1 kick-off workshop?

### 1.3 Key Roles & Responsibilities of Area Based Teams & Operators

Area Based Team	Operator*
1. Achieve the Production Plan Safely; in a Quality Way (right first time) Cost Effectively; and in an Environmentally Sound way	<ul style="list-style-type: none"> <li>• Frontline Safety &amp; Environment</li> <li>• Frontline Quality (input, process, output)</li> <li>• Frontline Equipment Care**</li> <li>• Achieve the Production Plan</li> </ul>
2. Formally improve the way the Production Plan is achieved	<ul style="list-style-type: none"> <li>• Formal Continuous Improvement</li> </ul>

\*Refer to the details in the Preparation for ABT & WAM document.

\*\*From an Equipment Care perspective, Operators who can:

- Recognise equipment defects or problems at the earliest possible time
- Initiate and ensure rectifications are promptly carried out
- Understand equipment functions and mechanisms
- Detect causes of defects or abnormalities
- Carry out minor servicing of their equipment where appropriate
- Understand the relationship between equipment and quality
- Predict problems in quality and detect their causes
- Manage own workplace

Is each Area Based Team achieving their Production Plan better than before starting their WAM Cycle? (How do you know? What measures are you monitoring?)

Are weekly or daily formal toolbox meetings being held in front of the team's Defined Production Area Scoreboard to reflect on performance?

## 2.0 Overview of OEM Activities

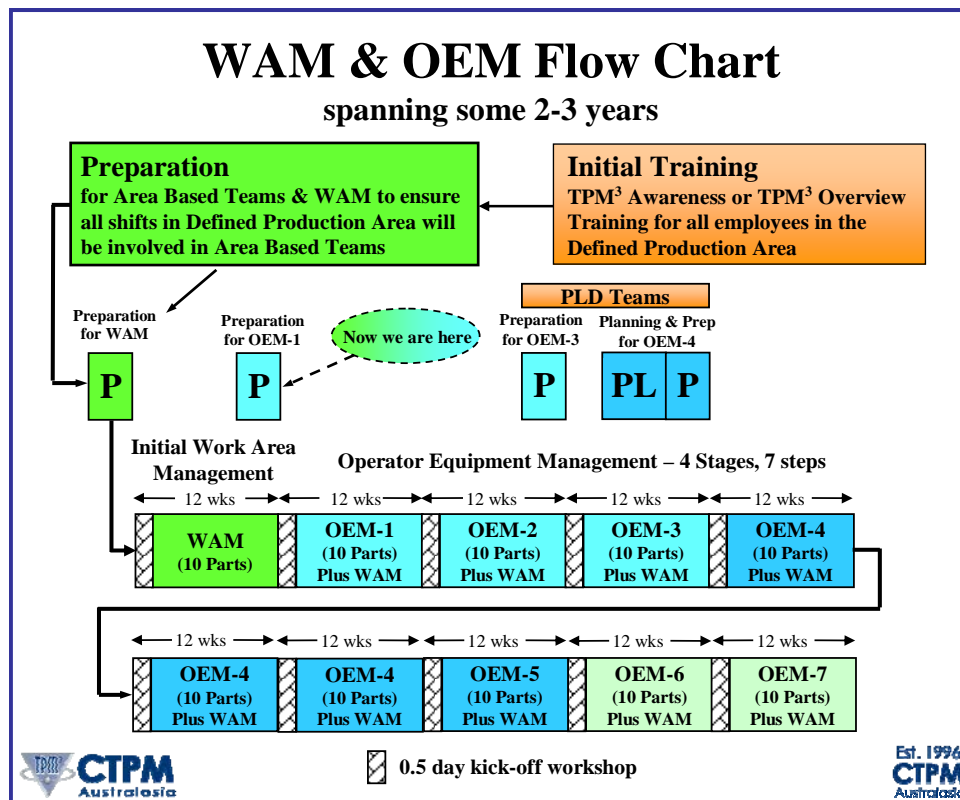
### 2.1 Outline of OEM

Operator Equipment Management involves a 4 Stage 7 Step Process of some 8-10 12-week cycles with Work Area Management activities supporting along the way to ensure ultimately we achieve a workplace that is free of accidents, breakdowns and quality problems. The key activities of Operator Equipment Management include:

- Support the Defined Production Area in improving OEE along with the agreed holistic goal aligned performance measures under the following typical headings: Safety & Environment Performance, Asset Performance, Quality Performance, Customer Satisfaction Performance, Supplier Performance, Human Resource Performance and Financial Performance
- Reduce early or accelerated deterioration of equipment by establishing Basic Equipment Conditions
- Assist in keeping equipment in its 'ideal' state through daily checks and proper operation after maintenance have restored equipment to its 'ideal' state
- Identify and initiate the improvement of Design Weaknesses

Some of the outcomes from Operator Equipment Management activities include:

- Using care of equipment as a means of teaching employees new ways of thinking and working
- Creating a positive environment to enable maintenance and production to gain a greater understanding of each others situation and build relationships
- Providing everyone with the training, systems and opportunities to care for their own equipment & workplace
- Establishing the necessary conditions and systems to allow equipment to be properly maintained
- Developing and unleashing the full potential of all Operators and Team Leaders in:
  - Frontline Safety & Environment
  - Frontline Quality (input, process, output)
  - Frontline Equipment Care
  - Achieving the Production Plan
  - Formal Continuous Improvement
- Developing successful Area Based Teams that take responsibility for their workplace performance recognising the 4 stages of Team Development
- Creating the environment where Production and Maintenance work in harmony
- Creating a failure-free, trouble-free, safe workplace



## 2.2 The 4 Stages of Operator Equipment Management

### Stage 1 Steps 1, 2, 3 - Cleaning for Inspection Activities

Learn how to recognise, rectify and prevent equipment defects so as to achieve and maintain Basic Equipment Conditions and thus reduce variation in Equipment Component Life (to allow Maintenance to enhance their PMs / PdMs) while improving Safety and Quality

### Stage 2 Steps 4, 5 - Training for Inspection Activities

Learn how equipment functions so as to diagnose equipment, quality and safety problems at the earliest possible time, be able to identify and contribute to improving Design Weaknesses and contribute to achieving a workplace that has Zero Breakdowns.

### Stage 3 Step 6 - Consolidate Quality Analysis Activities

Develop a deeper understanding of the relationships between Quality and Equipment Conditions so as to create a workplace that has Zero Quality Problems.

### Stage 4 Step 7 - Consolidate Ongoing Improvement Activities

Manage own workplace as a successful Mini Business (eg mature synergistic Area Based Team) so as to always achieve the Production Plan with Zero Breakdowns, Zero Quality Problems and Zero Accidents or Incidents.

## 2.3 The 7 Steps of Operator Equipment Management

### Stage 1: Cleaning for Inspection Activities

- Step 1 Identify & Rectify Equipment Defects
- Step 2 Address Sources of Contamination and Difficult to Access Areas
- Step 3 Establish Perfect Lubrication and Clean for Inspection Standards

### Stage 2: Training for Inspection Activities

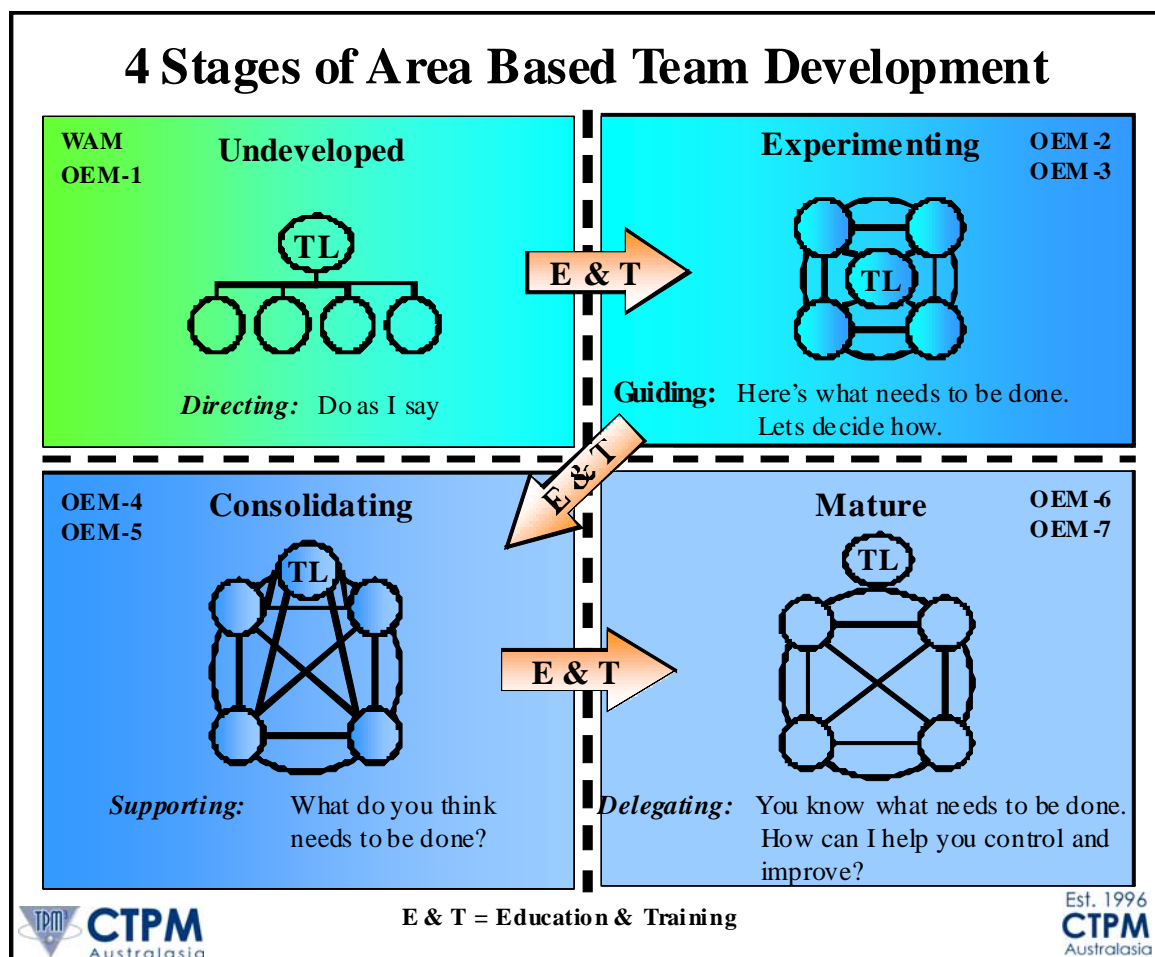
- Step 4 Understand Equipment Functioning (by each inspection category)
- Step 5 Finalise Inspection Standards for Equipment Care

### Stage 3: Consolidate Quality Analysis Activities

- Step 6 Understand Quality and Equipment relationships

### Stage 4: Consolidate Ongoing Improvement Activities

- Step 7 Manage own Workplace ensuring Zero Breakdowns, Zero Quality Problems, Zero Accidents or Incidents



## 2.4 Details of OEM Activities

### **OEM Stage 1: Cleaning for Inspection Activities**

**Learn how to recognise, rectify and prevent equipment defects so as to achieve Basic Equipment Conditions and thus reduce variation in Equipment Component Life (to allow Maintenance to enhance their PMs / PdMs) while improving Safety and Quality**

#### **1. Identify & Rectify Equipment Defects through Cleaning for Inspection**

Systematically clean and inspect designated plant & equipment

Remove all unnecessary redundant plant & equipment

Identify defects and difficult access areas and immediately rectify where possible

Note all defects and difficult access areas not corrected and organise their rectification

Apply Visual Controls where appropriate

Achieve at least 80% on Step 1 OEM Self Assessment

#### **2. Address Sources of Contamination and Difficult to Access Areas**

Identify the sources of contamination

Use 7-step Problem Solving process to address at least 1 major source of contamination

Organise the rectification of the sources of contamination

Keep dirt, debris from adhering to equipment

Improve difficult cleaning areas to reduce cleaning times

Enhance the use of Visual Controls where appropriate

Achieve at least 80% on Step 2 OEM Self Assessment

#### **3. Establish Perfect Lubrication and Clean for Inspection Standards**

Conduct education for lubrication and standards

Use 7-step Problem Solving process to address at least 1 lubrication problem or contamination problem

Operators to enhance their own Clean for Inspection and Lubrication standards

Review alternatives for dispersed lubrication points

Improve difficult to lubricate areas and repair any outstanding lubrication related defects

Review and extend application of Visual Controls

Shorten Clean for Inspection time, lubrication times and adjustment time

Achieve at least 80% on Step 3 OEM Self Assessment



## **OEM Stage 2: Training for Inspection Activities**

**Learn how equipment functions so as to diagnose equipment, quality and safety problems at the earliest possible time, be able to identify and contribute to improving Design Weaknesses and contribute to achieving a workplace that has Zero Breakdowns while improving Safety and Quality**

### **4. Understand Equipment Functioning (by each inspection category or module)**

Divide equipment into functional modules (typically 6-10) – refer to the Planning and Preparation for OEM-4 activities

Train operators in the structure and functions of equipment, proper adjustment and use, structural problem points, and daily check points.

Inspect equipment in the light of new knowledge acquired so as to identify new inspection points

Apply new knowledge to solve difficult to inspect areas and expand use of Visual Controls to facilitate inspection activities

Create inspection manual comprising of inspection checklists, procedures and standards

Encourage and support operator inspections and adjustments where appropriate

### **5. Finalise Inspection Standards for Equipment Care**

Rationalise and consolidate individual inspection manuals so as to create the consolidated OEM Manual for the equipment

Review format for establishing procedures & standards based on learning's to date

Update education on procedures & standards

Conduct routine inspection in accordance with standards

Operators to review existing procedures & standards for equipment diagnosis for completeness, efficiency and load balance with support from maintenance

Move forward aiming at Zero Breakdowns

## **OEM Stage 3: Consolidate Quality Analysis Activities**

**Develop a deeper understanding of the relationships between Quality and Equipment Conditions so as to create a workplace that has Zero Quality Problems while improving Safety**

### **6. Understand Quality and Equipment Relationships**

Consolidate Frontline Problem Solving A3 Worksheet skills

Prevent outflow of defective output to downstream processes

Prevent production of defective outputs by understanding and responding to the relationship between Quality and Equipment Conditions

Attain Process Quality Assurance using a proven process (refer to Process Quality Management Improvement Activity)

Move forward aiming at Zero Process or Output Quality Problems

## **OEM Stage 4: Consolidate Ongoing Improvement Activities**

**Manage the workplace as a successful Mini Business (eg mature synergistic Area Based Team) so as to always achieve the Production Plan with Zero Breakdowns, Zero Quality Problems and Zero Accidents or Incidents.**

### **7. Manage own Workplace ensuring Zero Breakdowns, Zero Quality Problems, Zero Accidents or Incidents**

Monitor daily performance and instigate corrective actions to any losses or wastes

Realise and maintain optimal Workplace (work area and plant & equipment)

conditions by setting and monitoring the rules, standards and procedures

Keep reliable equipment and team performance records

Analyse above records to prioritise action to further improve workplace (work area and plant & equipment) performance

Conduct regular (daily) self-assessments of team member behaviours to promote Zero Breakdowns / Zero Quality Problems / Zero Accidents or Incidents

## **3.0 Preparation for OEM-1**

### **3.1 Review your WAM Improvement Areas for extending to OEM Activities**

The Improvement Areas established for Work Area Management should have considered the implications of moving forward with Operator Equipment Management. A review should be conducted with the teams to determine whether the physical boundaries were appropriate or whether any fine tuning is required. Ideally there should be little change so that there is strong ownership to the WAM activities completed and outstanding as the teams move forward with OEM-1 activities.

### **3.2 Review Effectiveness of Area Based Teams**

Review the Base Skills Matrix for each Area Based Team. If not already in existence, a Micro E&T Team under the guidance of the PLD Leadership Team should be established to identify any immediate training needs to ensure the Area Based Teams will be flexible enough to support the ongoing improvement activities of WAM / OEM.

### **3.3 Review of Allocated Support for the Area Based Teams**

During WAM activities, specific support staff should have been allocated to each Area Based Team. Where ever possible the allocated support staff (e.g. mechanical maintenance, electrical maintenance, quality / technical, safety, and Leadership Team mentor) for WAM should continue for OEM-1 activities. They should also attend the OEM-1 kick-off workshop.

**Defined Production Area:**

Support Area	Designated Person for	Designated Person for	Designated Person for	Designated Person for
Team / Shift	Shift A	Shift B	Shift C	Shift D
Mechanical Maintenance				
Electrical Maintenance				
Quality				
Safety				
Leadership Team Mentor				
TPM <sup>3</sup> Co-ordinator				

**Note:** Ensure all 'designated persons' have attended at least TPM<sup>3</sup> Awareness training  
 Ensure at least the designated mechanical maintenance person and Leadership Team mentor attends the OEM-1 kick-off workshop

### 3.4 Establish Time for Formal Improvement Activities for the OEM-1 Cycle

#### Sample Allocation of Improvement Time during the OEM-1 Cycle

Key Roles of an Area Based Team	Area Based Team Improvement % Time	Cross-functional Team Improvement % Time
1. <b>Achieve the Production Plan</b> in a <b>Safe, Quality</b> (right first time), <b>Cost</b> Effective, and <b>Environmentally</b> Sound way (S,Q,C,E way) including keeping the <i>entire</i> Workplace (Defined Production Area) clean	<b>90%</b>	
2. <b>Formally Improve</b> the way the Production Plan is achieved through Area Based Team on-going improvement activities (WAM / OEM) and Cross-functional Team Improvement Activities such as Macro, Micro or Special Micro 9-step FE&PI Teams or Mini Micro 7-step Problem Solving Teams	<b>5%</b>	<b>5%</b>

**Notes:** Area Based Team 5% is typically 2.0 hours per week. Team Members may need to stop (or have relief coverage) to allow say 30 minute meeting and 1.5 hours improvement activities

Cross-functional Team 5% is typically each team member or up to 2 team members on separate Macro, Micro or Special Micro 9-step FE&PI Teams or Mini Micro 7-step Problem Solving Teams involving say 1 hour off the job for a meeting and say 1 hour for activities to support the team

### 3.5 Establish Area Based Team Mandate for OEM-1 Cycle

#### Sample Team Mandate:

For your Area Based Team's **Improvement Area** for OEM-1:

- Work towards Basic Equipment Conditions through regular Clean for Inspection activities by working through the 10 parts of Operator Equipment Management Step 1 (OEM-1);
- Create or enhance standards and checklists for your Improvement Area to ensure that WAM and OEM-1 improvements to date are sustained;
- Ensure appropriate Visual Controls are created or enhanced to communicate standards and to make any deviation from standard easy for all to see;
- Achieve an OEM-1 Self-Assessment Rating of at least 80%;
- Contribute along with all other Area Based and Cross-functional Teams in your Defined Production Area to help improve the OEE and the Goal Aligned Performance Measures for your Defined Production Area

### 3.6 Establish Team Boundaries for OEM-1

#### Sample Boundaries for the OEM-1 Cycle

**Physical:** Within the team's Improvement Area

**Technology:** No change to existing technology (unless approved)

**Team Resources:** Time for meetings per week: approx 0.5 hrs  
Time for improvement activities per week: approx 1.5 hrs\*  
Total Time for formal activities (excludes discretionary time): 2.0 hrs\*

*\* Plus any special activity (e.g. Initial Clean for Inspection event) time approved by the Leadership Team*

**Support Resources:** Allocated Mechanical Maintenance support: as required up to 3.0 hrs per week\*\*  
Allocated Electrical Maintenance support: as required up to 1.5 hr per week\*\*

*\*\* Plus any extra time approved by the Leadership Team*

**Financial:** A budget of \$500 (**determine**) per team subject to application from the team and approval from the Leadership Team at the mid-way presentation. Further money may be available if justified and then approved by the Leadership Team (your TPM<sup>3</sup> Co-ordinator can help you with this)

**Meetings:** If there is a need due to urgent safety or customer issue to defer the meeting, then the meeting should be rescheduled to the earliest possible time within the week

**Changes:** Before changes can be implemented, they must be agreed to by all other teams across all shifts in your Defined Production Area by having each Team Leader sign off on your TPM<sup>3</sup> Improvement Sheet

### 3.7 Establish Meeting and Activity Plan for OEM-1

#### Sample Meeting Plan

A formal team meeting should be held weekly at a regular time and place in front of the team's Noticeboard / Scoreboard / Whiteboard for a maximum of 30 minutes dependent on any urgent safety or customer requirements where upon the meeting is to be deferred until the earliest suitable time within the week.

#### Sample Activity Plan

Formal team improvement activities should be carried out at a regular time for a maximum of 90 minutes including meeting time, dependent on any urgent safety or customer requirements where upon the activities are to be deferred until the earliest suitable time within the week.

**Note:** The time for meetings & activities can be flexible depending on the constraints of the plant however it should be consistent across all shifts. For example possible options could be:

Option 1: Weekly OEM activities on the line

Time for meetings per week: 20 minutes

Time for OEM / WAM activities per week: 100 minutes

Option 2: Fortnightly OEM activities on the line

Time for meetings per fortnight: 1 hour

Time for OEM / WAM activities per fortnight: 3 hours

Option 3: Daily OEM activities on the line (assume 12 hour shift for 4 days)

Time for meetings per day: 10 mins in front of whiteboard (Noticeboard)

Time for OEM / WAM activities per day: 20 mins

Informal team meetings / activities can be carried out during normal work time provided they do not impede the team's ability to achieve the production plan in a Safely, Quality, Cost Effective and Environmentally Sound way.

The initial formal meetings may be a little longer with less time for activity while planning for the Initial Clean for Inspection is finalised.

### 3.8 Team Information Sheets

Complete a Team Information Sheet for each team in consultation with each team's production TPM<sup>3</sup> Champion (typically the Production Manager responsible for each Area Based Team) and have it approved by the Leadership Team.

Operator Equipment Management Step 1 Team Information Sheet (Area Based Team)				
Cycle:	Defined Production Area:		Improvement Area:	Activity: OEM-1 / WAM
Starting DPA OEE:		Target DPA OEE for this Cycle:		
Mandate:	<ul style="list-style-type: none"> <li>Work towards Basic Equipment Conditions through regular Clean for Inspection activities by working through the 10 parts of Operator Equipment Management Step 1 (OEM-1);</li> <li>Create or enhance standards and checklists for your Improvement Area to ensure that WAM and OEM-1 improvements to date are sustained;</li> <li>Ensure appropriate Visual Controls are created or enhanced to communicate standards and to make any deviation from standard easy for all to see;</li> <li>Achieve an OEM-1 Self-Assessment Rating of at least 80%;</li> <li>Contribute along with all other Area Based and Cross-functional Teams in your Defined Production Area to help improve the OEE and the Goal Aligned Performance Measures for your Defined Production Area</li> <li>Complete within 12 weeks</li> </ul>			
Boundaries:	Physical:	Within the team's Improvement Area		Meetings: If there is a need due to safety or customer issue to defer the meeting, then the meeting should be rescheduled to the earliest possible time within the week
	Technological:	No change to existing technology unless approved		
	Team Resources:	Time for meetings per week: approx 0.5 hrs Time for improvement activities per week: approx 1.5 hrs Total Time for formal activities (excludes discretionary time): 2.0 hrs		Changes: Before changes can be implemented, they must be agreed to by all other teams across all shifts in your Defined Production Area by having each Team Leader sign off on your TPM <sup>3</sup> Improvement Sheet
	Support Resources:	Allocated Mechanical Maintenance support: as required up to 3.0 hrs per week Allocated Electrical Maintenance support: as required up to 1.5 hr per week		
	Financial:	A budget of \$500 per team subject to application from the team and approval from L/T at the mid-way presentation. Further money may be available if justified and then approved by the Leadership Team (your TPM <sup>3</sup> Co-ordinator can help you with this)		
Team Members:	Team Leader		Designated Support	
	Operator		Maintenance - Mechanical	
	Operator		Maintenance - Electrical	
	Operator		Quality	
	Operator		Safety	
	Operator		LT Member (Mentor)	
	Operator		TPM <sup>3</sup> Co-ordinator	
	Operator		CTPM Navigator	
Kick-off Date & Time:		Meeting Day & Time:		Activity Day & Time:
Recommendations from Mid-way Presentation				
Results from Final Presentation:				
Key Learnings from Final Presentation:				
To be handed to each Team Member in Part 1 of kick-off workshop; To be completed at end of cycle for archives				

**Note:** As further information becomes available, eg timing of mid-way and final presentations, it should be added to the sheet.

### 3.9 Prepare TPM<sup>3</sup> Champion presentation for the OEM-1 Kick-off

Assist the TPM<sup>3</sup> Champion (Production Manager) to prepare a brief presentation for the OEM-1 kick-off workshop regarding:

- the history of TPM<sup>3</sup> at the site to date;
- outcomes from previous TPM<sup>3</sup> Team activities;
- why the site is embarking on Operator Equipment Management in the designated areas;
- who will be involved in OEM-1
- introduce the OEM-1 kick-off workshop presenters

### 3.10 Review Steps to be covered in OEM-1 Kick-off Workshop

#### Half-day Kick-off Workshop

##### 0-01 Introduction

Where does Operator Equipment Management fit into our Improvement Journey  
Overview of Operator Equipment Management

##### 1-01 OEM-1 Part 1 Confirm Mandate & Boundaries

1. Explain what the Leadership Team expects from your team (Present Team Mandate)
2. Explain Team Boundaries
3. Confirm your Team Boundaries
4. Confirm your Team Meeting Plan
5. Confirm Improvement Areas for OEM-1 / WAM
6. Establish Communication Plan

##### 2-01 OEM-1 Part 2 Review Team & Scope Activities

1. Team Skills Training
2. Review of Area Based Teams
3. Confirm purpose
4. Confirm information to be managed by team
5. Identify relationships
6. Review team responsibilities
7. Establish team rules
8. Establish team roles

##### 3-01 OEM-1 Part 3 Initial Clean for Inspection

1. Understand the meaning of Cleaning for Inspection
2. Agree on a tagging method for defects
3. Review Safety Tools
4. Establish an 'Initial Clean for Inspection' plan

**Note:** Ensure all OEM-1 kick-off workshops are conducted in an 'inductive' way ie all employees are engaged to participate in OEM-1 activities by asking questions (Do you ever waste time because your equipment does not work perfectly? Do you every get frustrated because your equipment does not work perfectly? Would sorting out your equipment problems make life easier for you? etc) supported with story telling by the employees outlining their experiences and frustrations from their equipment not working perfectly.

### 3.11 Prepare Training Aides for OEM-1 Kick-Off Work

1. Take photos / videos of designated workplace focusing on potential OEM-1 opportunities (e.g. equipment defects, difficult to access areas, contamination etc) to assist team members to visualise opportunities within their **Improvement Areas**
2. Prepare photo's / videos of 'Vision of OEM-1 Excellence' eg Unilever - Indonesia video, previous Clean for Inspection videos, photos etc

### 3.12 Determine OEM-1 Schedule

(Recommended completion within 12 weeks)

#### Sample OEM-1 Schedule

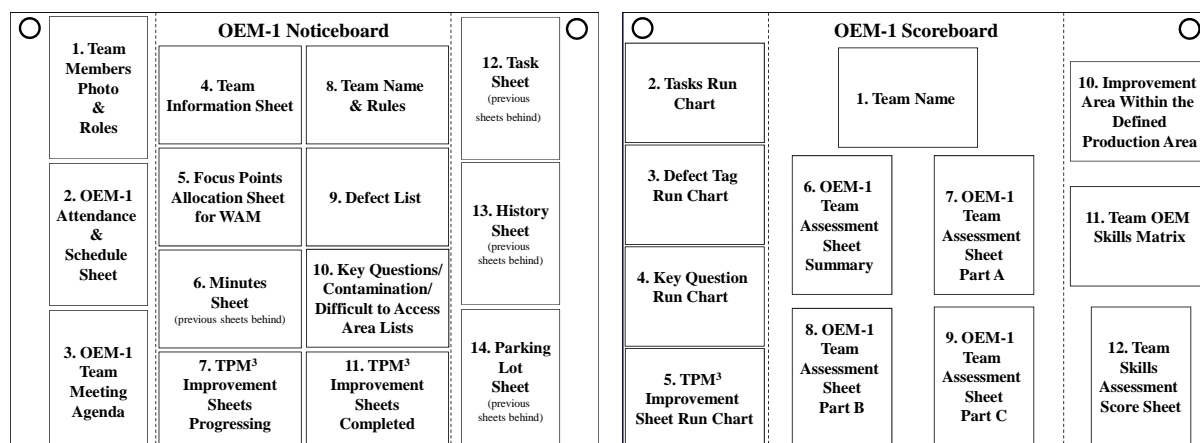
Parts	Week											
	1	2	3	4	5	6	7	8	9	10	11	12
0. OEM-1 Half-day Kick-off Workshop												
1. Confirm Mandate & Boundaries												
2. Review Team & Scope Activities												
3. Initial Clean for Inspection												
4. Develop Actions for Defect Repairs												
5. Identify Requirements for Workplace												
6. Obtain Approval to Proceed												
<i>Mid-way Presentation to Leadership Team</i>												
7. Implement Approved Improvements												
8. Review & Improve Cleaning & Inspection Process												
9. Self-Assess Achievements & Team Skills												
<i>Final Presentation to Leadership Team</i>												
10. Communicate Results & Share Learnings												

**Note:** Date and time of the mid-way and final presentations should be finalised as soon as practical in order to ensure all Leadership Team members can attend. These presentations are to be conducted in front of each team's Noticeboard / Scoreboard / Whiteboard so that other shifts can view their boards after the presentation and see what was presented.

### 3.13 Prepare Sheets for OEM-1 Noticeboard and Scoreboard

- Use sheets with One-Point Lessons on the back
- Boards to be as per Site Standard – reuse WAM boards if OK, otherwise create a new set of boards
- Make-up a set of sheets for each OEM-1 team

#### Suggested Layout for OEM-1 Noticeboard and Scoreboard





## Suggested Layout of OEM-1 Board Area

Whiteboard	WAM Activities	OEM-1 Noticeboard	OEM-1 Scoreboard
	<p><b>Progressing</b></p> <p><b>Outstanding</b></p>		

### 3.14 Maintenance Preparation for OEM-1

Ensure the allocated Mechanical Maintenance and Electrical Maintenance person for each Area Based Team embarking on OEM-1 has completed at least a one-day TPM<sup>3</sup> Awareness workshop and has had a briefing session from their TPM<sup>3</sup> Champion (Maintenance Manager) on how OEM activities will assist the maintenance department and maintenance employees in their own work (may need to refer to some of the material from the 3-day TPM<sup>3</sup> Advanced Training workshop or the MEM Awareness workshop).

The Maintenance department through the MELT needs to be involved in developing the site defect tagging system which will be trialled during the first Initial Clean for Inspections – see next section.

Another key activity during the initial Clean for Inspections is for the allocated maintenance persons (Mechanical and Electrical) to review all the PMs for their assigned Area Based Team's Improvement Area especially in light of the new practices being undertaken by the operators to keep their equipment clean and finding defects at the earliest possible time. Hence a list of all PM's for the Improvement Area should be generated as soon as practical to gauge the extent of the activity and to create a plan for how best to review all the PM's and make adjustments where appropriate.

### 3.15 Establish Defect Tagging System

Various methods of a defect tagging have been used over the years. Each site needs to determine the most appropriate system that will meet their needs and fit into their current work practices (e.g. in Food Industries you often cannot use cable ties etc). A defect tag system should not only cover what type of tag will be used, but most importantly how the defect will be managed once identified. For example once a defect has been identified it will need to be allocated to someone to rectify along with a priority within the team's boundaries (e.g. 2 hours Mechanical Maintenance support per week).

Some sites opt for a very simple single tag system initially until a greater level of understanding is developed through experience before moving to a more comprehensive multi tag system. Below are some steps to assist you in developing your site's own system.

### i. Decide on tags to be used for the Defect Tagging System

CTPM have developed a dark blue (maintainer to fix) and white (operator to fix) 2-tag system with each tag divided into 3 sections to allow a section to be attached to the defect (via a nylon cable-tie), a section to be given to the person responsible for fixing (allocated maintainer or leader of the Area Based Team doing OEM-1), and a section to be pinned onto a display board showing layout of area to identify where to find the defect and to key a visual record of where previous defects have been found.

Alternatively, a site may wish to start with their own system in which case we suggest the following questions may assist in developing your system

	Consider the following Questions	Notes / Decision
1.	Do we use a 1 tag, 2 tag, or 3 tag system?	
2.	Do we use a one-part tag, two-part tag or three-part tag?	
3.	What type of material should the tag be made from (eg cardboard, plastic, metal etc)?	
4.	What information do we need recorded on tag?	
5.	What colour and size should the tag or tags be?	
6.	Should the tag or tags be pre-numbered?	
7.	What design should the tag take to ensure it is user-friendly?	
8.	How will they be attached?	
9.	How many will we need?	
10.	When will we have to order them?	

**Note:** If you are using the CTPM tags you will need to address questions 9 and 10 above

## Example Defect Tag available from CTPM (actual size)

<div style="float: left; width: 100px; height: 30px; border: 1px solid white; border-radius: 50%;"></div> <div style="float: right; text-align: right;"> </div> <div style="clear: both;"></div> <b>CTPM DEFECT TAG</b>	
<div style="text-align: right; margin-bottom: 5px;">TAG: 0001</div> Name: _____ Date: _____	<div style="text-align: right; margin-bottom: 5px;">TAG: 0001</div> Name: _____ Date: _____
DPA: _____ SECTION OF DPA: _____ SYSTEM: _____ <div style="text-align: right; margin-top: 10px;">TAG: 0001</div> Name: _____ Date: _____ DESCRIPTION OF DEFECT: _____ _____ _____ COMMENTS: _____ _____ _____	DPA: _____ SECTION OF DPA: _____ SYSTEM: _____ <div style="text-align: right; margin-top: 10px;">TAG: 0001</div> Name: _____ Date: _____ DESCRIPTION OF DEFECT: _____ _____ _____ COMMENTS: _____ _____ _____
<div style="text-align: right; margin-bottom: 5px;">TAG: 0001</div> System: _____ Name: _____ Date: _____	<div style="text-align: right; margin-bottom: 5px;">TAG: 0001</div> System: _____ Name: _____ Date: _____

**To fixed by Maintenance**
**To fixed by Operator**

### ii. How do we manage the Defect Tagging System?

A critical part of any Defect Tagging System is how the tags are managed to ensure all defects are rectified in a timely manner. The system should be **simple**, **visual** and **easy** to administer for both OEM team members and maintainers. The following table lists the recommended elements for a successful Defect Tagging System.

	Required Elements to Consider	Notes / Decision
1.	<b>Defect Tagging Procedure Flow Chart</b> A simple flow chart explaining the procedure of how to tag equipment defects. (Refer to example in fig. 1)	
2.	<b>Equipment Defect Board</b> Visual display of defect tags on a drawing of the equipment, so at a glance anyone can assess the defect management of the machine/process. (Refer to example fig. 2 )	
3.	<b>OEM Defect List Sheet</b> Use CTPM generic sheet or modify to suit.	
4.	<b>Defect Tagging Station</b> Establish a Defect Station for each Defined Production Area which includes a place to store Defect Tags, The 4 OEM Lists (includes Defect List), Clean for Inspection Checks Lists and display Tagging Flow Chart and Equipment Defect Board (Refer to example fig. 3)	
5.	<b>Defect Priority System</b> Typically, if defects are able to be rectified by the allocated maintenance resources (Mech and Elect) within their allocated support timeframe then the priority is managed within the team with the support of their allocated maintenance persons (Mech and Elect). If special parts or extended time are required then the maintenance person will normally raise a work order and manage the job through the Maintenance Management System with regular feedback to the team. If the defect is to be rectified by the operators (eg white tag), then the Team Leader, with the support of their team members, will set and monitor the priority.	

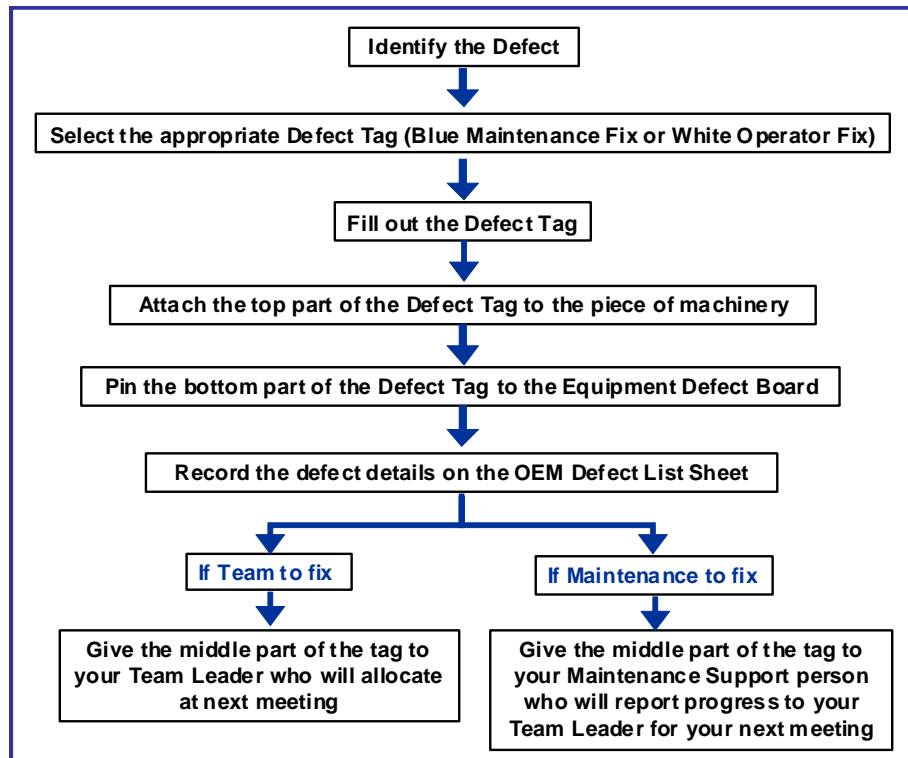


Figure 1 - Example Defect Tagging Procedure Flow Chart

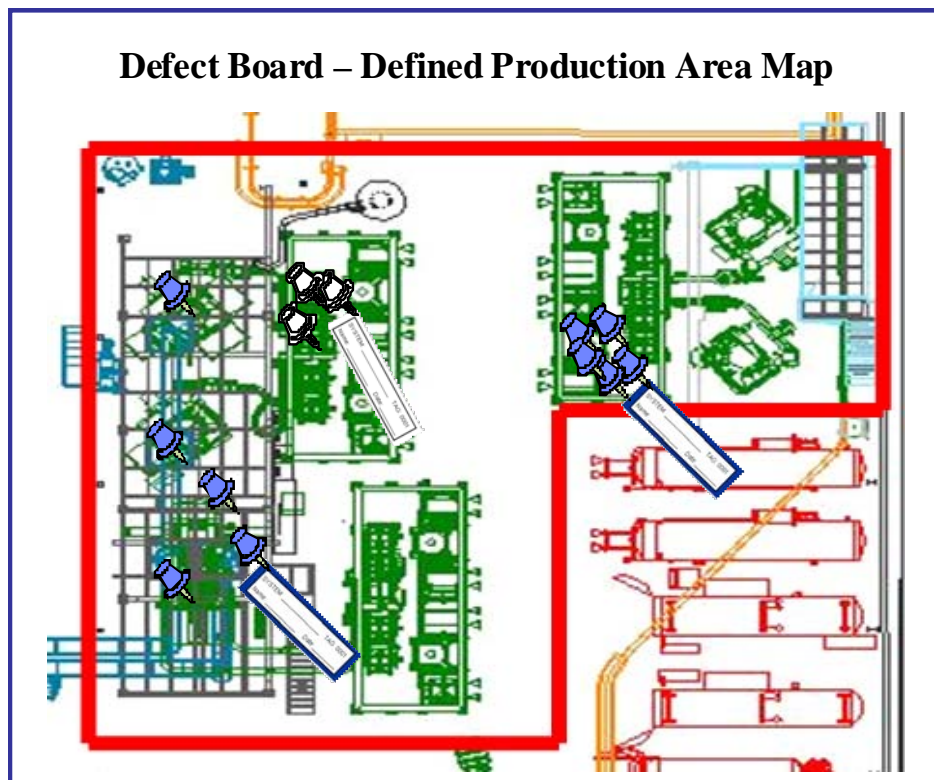


Figure 2 - Example Equipment Defect Board



**Figure 3 - Example Defect Tagging Station**

### 3.16 Order Supplies

Determine and order supplies required for OEM-1 Activities:

- Noticeboard & Scoreboard OEM-1 Sheets
- Whiteboard (if not already using one for WAM)
- Defect Tags with ties
- Defect Tag System Flow Chart
- Cleaning Items
- 4 Lists

### 3.17 Brief Team Leader

Conduct a briefing session (suggest about 1 hour) with the Team Leaders to introduce them to the Team Leader OEM-1 Manual so they will be able to lead their team through the OEM-1 Kick-off Workshop.

## 4.0 Required Outputs

### Preparation for Operator Equipment Management Step 1

<i>Output</i>		<input checked="" type="checkbox"/>
1.1	Reviewed Purpose of Work Area Management	<input type="checkbox"/>
1.2	Reviewed Key Learning's from WAM Cycle	<input type="checkbox"/>
1.3	Reviewed Key Roles & Responsibilities of Area Based Teams & Operators	<input type="checkbox"/>
2.0	Reviewed OEM Activities	<input type="checkbox"/>
3.1	Reviewed WAM Improvement Areas for extending to OEM Activities	<input type="checkbox"/>
3.2	Reviewed Effectiveness of Area Based Teams	<input type="checkbox"/>
3.3	Reviewed Allocated Support for the Area Based Teams	<input type="checkbox"/>
3.4	Established Time for Formal Improvement Activities for the OEM-1 Cycle	<input type="checkbox"/>
3.5	Established Area Based Team Mandate for OEM-1 Cycle	<input type="checkbox"/>
3.6	Established Team Boundaries for OEM-1	<input type="checkbox"/>
3.7	Established Meeting and Activity Plan for OEM-1	<input type="checkbox"/>
3.8	Completed all OEM-1 Team Information Sheets	<input type="checkbox"/>
3.9	Prepared TPM <sup>3</sup> Champion presentation for the OEM-1 Kick-off	<input type="checkbox"/>
3.10	Reviewed Steps to be Covered in OEM-1 Kick-off Workshop	<input type="checkbox"/>
3.11	Prepared Training Aides for OEM-1 Kick-Off Workshop	<input type="checkbox"/>
3.12	Determined OEM-1 Schedule	<input type="checkbox"/>
3.13	Prepared Sheets for OEM-1 Noticeboard and Scoreboard	<input type="checkbox"/>
3.14	Maintenance Preparation for OEM-1 completed	<input type="checkbox"/>
3.15	Established Defect Tagging System	<input type="checkbox"/>
3.16	Ordered Supplies for OEM-1 cycle	<input type="checkbox"/>
3.17	Conduct Team Leader Briefings	<input type="checkbox"/>