

WCM For Manufacturing Excellence & Competitive Advantage

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ABSTRACT

Vision & Mission of an organization can be achieved only with role model Leadership at every level in the organization. Individuals are effective only when they work in Teams and take Ownership of the process. Teams give their best when they are Challenged and Inspired - a stimulus for best performance, recognition and pride. World Class Manufacturing (WCM) is a proven approach which transforms organizations and enhances its competitiveness in all the business fronts. It is a proven concept for Quality & Productivity Improvement.

Why WCM?

- WCM (World Class Manufacturing) is the strategy with which we can transform ourselves into a cost and quality competitive corporate entity driven by customer requirement.
- This is a “must” in this era of globalization, falling import tariffs and rising competition.
- To protect ourselves against the onslaught of competition from within the country and from outside, it has become necessary for us to re-focus on quality, cost, customer service and achieve substantial improvements in these critical areas within least time interval.

What is WCM?

- WCM is a holistic approach to Quality and Productivity improvement which is focused on the elimination of all forms of Waste and Non-Value Adding Activities in the organization.
- This is achieved through the creation of a culture of continuous improvement based on the involvement of all employees.
- It is the Art of Managing through Teams for Sustainable Superior Performance.

WCM Goals

WCM is a unique concept to achieve enterprise excellence characterized by Six Zeros

- Zero Accidents
- Zero Breakdowns
- Zero Customer complaints
- Zero Defects
- Zero Pollution (Environment)
- Zero Waste

Facilitating Structure for WCM Implementation

- WCM initiative was launched with a kick-off in SPB in Sept 2005
- Following WCM Structure was formed:
- Steering Committee comprising of Top Management
- WCM Secretariat comprising a Head with Secretariat Staff
- Core Team under WCM Secretariat

- AMTs Level 1 & Level 2 AMT leaders, Champions & Facilitators for each dept. were selected

1. All areas, equipments and all employees including Contract Workers in the plant are covered in the AMTs
- AMT meeting schedule and Agenda were fixed
 - Simultaneously, Training on WCM

WCM Structure



Tools was imparted to all the Employees & Contract Workers

- WCM audit criteria was formulated. Audits are conducted quarterly to evaluate the Status of WCM in each dept.
- WCM performance is reviewed in the HOD meetings periodically to further improve

WCM Tools

WCM success will depend on our mastering the following 12 tools and practicing them in letter and spirit in our day to day work :

1. 5S
2. ZAM (Zero Abnormality Movement)
3. RCA(Root Cause Analysis)
4. WE(Waste Elimination)
5. VM(Visual Management)
6. Kaizen
7. TPM,FMEA
8. Poka Yoke
9. JIT, Kanban, SCM
10. CRM
11. Activity Based Costing
12. SQM, Six Sigma

Training & Communication

To create mindset and passion, awareness training was imparted to all the employees and contract workers both in English and Tamil for the first 6 tools so far in WCM viz 5S, ZAM, RCA, Waste Elimination, Visual Management & Kaizen.

- Training material in the form of booklets is given to all the employees.
- WCM gallery has been erected at the entrance of the factory wherein the status of WCM activities is displayed with photos etc. and updated regularly.
- WCM in-house newsletter is brought out by WCM Secretariat every month with top management official's message to the employees, appraising the employees of the status of implementation of the WCM program besides disseminating information on the WCM methodology. Photos of those employees & contract workers who give useful improvement suggestions and articles like benefit of WCM are also printed in the WCM Newsletter for knowledge sharing.
- Progress and status of WCM activities in various depts. is the top of the agenda and discussed in detail in all the HOD meetings and

Technical Review Meetings conducted by the chairman.

WCM Steering Committee :

- WCM Steering Committee consists of top management officials. WCM secretariat is well supported with necessary infrastructure Clerical Assts for documentation etc.
- WCM Steering Committee will conduct meetings twice a month and discuss the progress and issues in the WCM activities in various depts.
- Score card for all the Facilitators showcasing performance of each dept. are prepared based on WCM activities every month and discussed in the HOD meeting by top management. Typical score card is presented as fig. 1.
- Steering Committee along with Core Team do quarterly inspection of all depts. to assess the progress made in WCM activities.
- Top three depts. who are doing well in WCM activities are selected for recognition and cash award by CMD.

Facilitators & Champions

- HODs / Section Heads were nominated as Facilitators and senior persons in the concerned depts. were selected as Champions for implementing the WCM tools in their depts.

Autonomous Manufacturing Teams (AMTs)

- More importantly, WCM requires the committed participation of each one of the employees.
- Each employee is given ownership of equipment / area (for responsibility and accountability) where he will implement '5 S' and identify the abnormalities in his ownership area using his senses (eyes by seeing abnormalities, ear by hearing abnormal sound, hands by touching for abnormal vibration and heat, nose for abnormal smell) and write down the same in his Equipment / Area Log Book , inform his AMT leader and also highlight the same in the AMT meetings and ensure they are eliminated at the earliest.
- Individuals are effective only when they work in Teams and take ownership of the process. Hence A M T s (A u t o n o m o u s Manufacturing Teams) were

formed in all departments.

- The backbone of WCM are the AMTs. AMTs are cross functional teams with members drawn from various disciplines like Process, Mechanical, Electrical, Instrumentation Control, Civil etc.
- These AMTs have the responsibility to ensure proper functioning and upkeep of equipment and processes. The AMT's collective responsibility is to ensure optimal utilization of all the resources under their custody, for the betterment of the organization.
- AMTs, in many ways determine the success of the WCM program. Vigorous and effective AMTs can help reach the organizational goals with ease and in quick time.
- Two levels of AMTs are structured Level I AMT and Level II AMT.
- Generally the HOD / Section Head will be the Facilitator and AMT Leader in the Level I AMT and the persons coming in the general shift along with the area managers from mechanical, electrical and instruments dept will be the other AMT Members.
- The issues which require shut, planning, co-ordination, follow up and other resources are discussed in Level I AMT meetings.
- Level II AMT comprises of one AMT leader - mostly the Shift-in-Charge, one deputy leader, the shift members and cross functional members from mechanical, electrical, instrument & civil depts.
- In the Level II AMT meetings, they will discuss the day to day problems which can be solved by the members in the team.
- The persisting problems of the Level II AMT meetings will be carried over to Level I AMT meeting and will be discussed and attended.
- AMT leaders will elicit improvement suggestions focusing on Q C D I P - Quality, Quantity, Cost, Delivery, Innovation & Productivity from all the team members.
- Good suggestions are sent to WCM Secretariat for recognition and reward.
- AMT meetings are conducted every week

Agenda for AMT Meetings

1. 5S and Ownership

2. Production Targets / Process Objectives
 3. Actual achieved
 4. Gaps if any
 5. RCAs for the gaps
 6. ZAM/6 Zeros
 7. Waste Elimination
 8. Kaizen
 9. Improvements in Q/C/D/I/P
- AMT meetings are minuted and displayed in the WCM display board in the dept.
 - Kaizen, Waste Elimination & RCAs done are also displayed in the display board.
 - Typical Kaizen / RCA / Waste Elimination sheets are presented in fig. 2, 3 & 4
 - Names of the members who are present and absent for the AMT meetings are written in the AMT minutes.
 - Responsibility with target dates are clearly defined and written in the minutes for the jobs entrusted to the members.

WCM Core Team

- Next we formed the Core Team with select exceptional employees (6 nos) amongst the staff and workers who show passion and willing to implement WCM tools in the organisation.

- Organisation is divided into 6 zones with 6 depts in each zone.
- Each core team member is given ownership of each zone. and his primary function is to witness the conduct of AMT meetings in his ownership area and guide the AMTs in successfully implementing the WCM tools.
- He will also interact with the employees in identifying the wastes and highlight in the AMT meetings for elimination at the earliest.
- He will also follow up the long pending jobs discussed in the AMT meetings and highlight them in the Steering Committee Meetings.

Benefits of WCM

- Mindset, work culture and morale of the employees and contract workers have improved
- Healthy and safe work environment
- All employees and contract workers are involved in the WCM activities and each one of them is given ownership of an equipment / area
- Abnormalities in the ownership areas are identified, documented and eliminated at the earliest

- RCAs are done for all the repeated problems using fish bone diagram and why-why analysis
- Wastes are identified in the depts. and are eliminated as cost reduction measures. Some waste elimination projects have resulted in substantial savings
- Visual management has been done wherever needed for controlling the process
- Since Jan 2006 to Dec 2009, we have received about 2002 nos. of Improvement Suggestions from employees and contract workers which have been accepted and implemented
- Delighting the customers
- Increased productivity
- Pride

Conclusion

WCM is a journey and not a destination. It is a form of journey to the Manufacturing Excellence and is a must for every growing organization to sustain the competitive performance.

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