

ACHIEVING QUALITY EXCELLENCE

STRATEGY TO INJECT THE AQE PROBLEM SOLVING METHODOLOGY
INTO SLPCF WORK CENTER MANAGEMENT TEAMS

Prepared by: John P. Thompson

April 16, 1988

SCOPE

This document outlines the project management plan to proliferate the use of "Achieving Quality Excellence" problem solving methodology (Dr. Mikel Harry) in Salt Lake Printed Circuit Facility Work Center Management Teams. The plan does not address the long term visionary injection of AQE into convergence, design or suppliers.

PREMISES AND ROLE DEFINITIONS

- SLPCF management sets facility goals based on dollars to recognize and find leveraged improvement opportunities. The Action Plan format will be used.
- Hierarchical pareto will be used to focus problem solving efforts on areas where leveraged dollar improvement opportunity is greatest.
- TQS will take the Steering Committee goal definition(s) and apply factory quality and dollar reports as well as MRB and other resources to hierarchically pareto the dollar goals into product opportunities by board type and defect code. This will be done within the Application Workshop/Action Plan format led by a TQS "Brown Belt".
- Formation of TQS ad hoc "cross" work center problem solving teams is no longer required because thorough hierarchical pareto directs problem solving assignment to Work Center Management Teams.
- When hierarchical pareto directs the leveraged problem to multiple Work Center Management Teams, TQS may request a Multi-vari study from each W.C.M. Team. TQS compares the results of each team's Multi-vari study to determine the leveraged team. Problem solving activity on teams lacking leverage on that problem will cease.
- Problem solving will occur within the structure of the Work Center Management Team using the Application Workshop/Action plan format led by a Team "Green Belt".
- The role of a "Green Belt" is to facilitate the structuring of a problem into an Action Plan format by leading an Application Workshop. This is different than the role of W.C.M. Team Leader.
- A "Brown Belt" is a "Green Belt" with exceptional statistical or facilitation skills. Dave Anderson and Helen Dennis are "Brown Belts".
- A "Black Belt" is devoted full time to the facilitation and proliferation of the AQE problem solving methodology and is a resource to the total factory.
- The W.C.M. Team Leader retains total team responsibility.
- Application Workshops will be conducted in Teams responsible for the highest dollar leveraged problems first. Hierarchical pareto prioritizes team problem assignment.
- No more than three Application Workshop/Action Plans will be active at the same time within the SLPCF to assure proper focus in the overall strategy.
- The Action Plan is used to structure interactive "review and approve" reporting between the Steering Committee, TQS and Work Center Management Teams.

SLPCF PARTICIPATIVE MANAGEMENT ROLES IN AQE PROBLEM SOLVING METHODOLOGY

TACTICS & TOOLS	AQE LOGIC FILTER STEP	RESPONSIBLE GROUP	OWNER	FACILITATOR**	RESOURCE
<p>MEASUREMENT scale Reporting Method & Tools</p> <p>PCGM GOAL DEFINITION</p>	RECOGNIZE LEVERAGE	PCM MGMT.	VANCE W.	N/A	STAFF & BLACK BELT
<p>SLPCF FACTORY GOAL DEFINITION</p>	RECOGNIZE LEVERAGE	SLPCF STEERING COMMITTEE	CLIFF A.	N/A	STAFF & BLACK BELT
<p>DOLLAR REPORTS</p> <p>QUALITY REPORTS</p> <p>MRB → HIERARCHICAL PARETO</p> <p>← Customer Reports Reliability Data</p>	CLASSIFY OPPORTUNITIES INTO PRODUCT AREAS	TQS	KEN S.	BRN. BELT	TOTAL FACTORY, BLK & BRN BELTS
<p>OBJECTIVE "A"</p> <p>OBJECTIVE "B"</p>	CLASSIFY	WORK CENTER MGMT. TEAM	WCMT LEADER	GRN. BELT	WCMT MEMB INV. TEAM, BK/BN BELT
<p>MEAS. VALIDITY & MULTI-VARI STUDIES</p> <p>MEAS. VALIDITY & MULTI-VARI STUDIES</p>	ISOLATE SOURCES OF VAR.	WCMT	WCMT LEADER	GRN. BELT	Q.C. ENG. WCMT, INV. TEAM BK/BN BELT
<p>THEORIES & BRAINSTORM</p> <p>THEORIES & BRAINSTORM</p>	LINK PROD. TO PROCESS	WCMT	WCMT LEADER	GRN. BELT	WCMT, BK/BN BELT
<p>EXPERIMENT DESIGN</p> <p>EXPERIMENT DESIGN</p>	CONFIRM PROCESS VARIABLES	WCMT	WCMT LEADER	GRN. BELT	PROC. ENG. WCMT BK/BN BELT
<p>RUN EXPERIMENT</p> <p>RUN EXPERIMENT</p>	CONFIRM PROCESS VARIABLES	WCMT	WCMT LEADER	GRN. BELT	MFG.* WCMT INV. TEAM
<p>ANALYZE RESULTS</p> <p>ANALYZE RESULTS</p>	CONFIRM VARIABLES	WCMT	WCMT LEADER	GRN. BELT	PROC. & QC ENG.* BELT
<p>FIX PROCESS</p> <p>FIX PROCESS</p>	CONTROL VITAL FEW	WCMT	WCMT LEADER	GRN. BELT	PROC. ENG.
<p>CONTROL CHARTS</p> <p>CONTROL CHARTS</p>	CONTROL VITAL FEW	WCMT	WCMT LEADER	GRN. BELT	QC. ENG.* WCMT, PROC ENG., MFG. BK/BN BELT

Lead Quality with

Tool Column

STEP Column

ACTION PLAN STEP Reference Column

M: Lesson Column

* Lead Resource Individual

** Facilitation Only for Application Workshop Leadership

ISSUES ADDRESSED IN THIS PLAN

- Appointment and training of "Green Belts" as Application Workshop leaders within each Work Center Management Team.
- Additional training of managers in "goal setting" by Mike Harry.
- Low copper/undersize holes case study project completion.
- Statistical refresher training (I.E. mean, std. dev., Cp, Cpk, basic inferential statistics).
- Long term "Vision" plan.
- Setting of facility goals by management.
- Application Workshop schedule.

PLAN TO INJECT THE AQE METHODOLOGY INTO SLPWF WORK CENTER MANAGEMENT TEAMS

Prepared by: John P. Thompson

Rev. Date: 4/16/88

	APRIL												MAY																
	1	1	1	1	2	2	2	2	2	2	2	2	2	3	4	5	6	9	0	1	1	1	1	1	1	1	2	2	
	4	5	8	9	0	1	2	5	6	7	8	9	2	3	4	5	6	9	0	1	2	3	6	7	8	9	0	3	
1. Appoint Green Belts	: COMPLETE	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:
2. Green Belt Training	:	:	X	:	X	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:
3. Goal Setting Training	:	:	:	:	X	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:
4. Case Study Data Anal.	:	:	:	:	>-----X	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:
5. Case Study Completion	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:
6. Statistics Refresher	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:
7. Long Term Vision Plan	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:
8. Mgmt. Facility Goals	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:
9. Application Wksp. #1 (TQS)	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:
10. Application Wksp. #2	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:
11. Application Wksp. #3	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:

SCHEDULED START DATE >

SCHEDULED COMPLETE DATE X

PLAN TO INJECT THE AQE METHODOLOGY INTO SLPCF WORK CENTER MANAGEMENT TEAMS

PROGRAM ACTIONS

Rev. Date: 4/16/88

ACTION ITEMS

- | | | | |
|-----|---|------------------------|---------------|
| 1. | Appoint Green Belts.
Green Belts will conduct future Application Workshops within their respective W.C. Mgmt Teams. | Owner: J. P. Thompson | Due: COMPLETE |
| 2. | Green Belt Training.
Additional training will occur during the M. Harry visit. | Owner: M. J. Harry | Due: 4/21/88 |
| 3. | Goal Setting Training.
PCM and SLPCF managers get specific Action Plan Goal training. | Owner: M. J. Harry | Due: 4/21/88 |
| 4. | Case Study Experiment Data Analysis | Owner: D. M. Anderson | Due: 4/21/88 |
| 5. | Case Study Completion.
Fixes, controls and reports are to be complete. | Owner: T. A. Barnson | Due: 7/1/88 |
| 6. | Long Term Vision Plan.
This plan will inject AQE into manufacturing, design and supplier groups. | Owner: The "Belt Rack" | Due: TBA |
| 7. | Statistics Refresher.
W. C. Mgmt. Team members and other interested parties can get a refresher class in basic statistics to be able to use a common language when statistically structuring a problem for solution. | Owner: D. M. Anderson | Due: 5/10/88 |
| 8. | Management Facility Goals.
Facility Goals on the first page of the Action Plan are to be set. | Owner: P. D. Perkins | Due: 4/29/88 |
| 9. | Application Workshop #1. (TQS)
TQS will hierarchically pareto the management dollar goal into product opportunities by BT and defect code. | Owner: J. P. Thompson | Due: 5/6/88 |
| 10. | Application Workshop #2.
Hierarchical pareto priority assigns this W.C. Mgmt. team by defect code. | Owner: J. P. Thompson | Due: 5/17/88 |
| 11. | Application Workshop #3.
3-4 weeks will pass to focus on the L1/K4 team and the team above before another problem is tackled. | Owner: J. P. Thompson | Due: 6/17/88 |