

“Change to Win”

Change Management Program

100-Day Pilot Workbook

Lifetime Reliability Solutions

www.lifetime-reliability.com

Change to Win

Forcing change on people hardly ever works, and it is unlikely to last once the force is removed. People are people, and they think and behave as they justify and reason to themselves. They must see a need to change before they will change their behavior. In a change management program, we seek to help people see things in a new way that lets them question their past positions and come up with new views and behaviors to address a situation. The “Change to Win” program is a 100-day business improvement process that allows participants to solve a dire business issue by finding new knowledge and ideas to fix it. The program is a structured process that creates a safe environment in which to learn and try methods for higher business performance and results. Management supports and guides the process while letting their people better the business.

Change to Win applies the scientific method—propose hypothesis, test, confirm, enhance, apply—to improve business performance. You use the Change to Win program to bring people together in teams to find and bring new practices into an organization. The organization’s people find and introduce better practices that improve their own performance. This gives them responsibility for solving their workplace problems, and this workbook gives them the vehicle to deliver solutions. The business naturally benefits as its people rapidly grow their knowledge, understanding, and passion for excellence.

A team consisting of a manager, a supervisor, and people from the workplace is assembled to identify necessary changes and execute them. The team is responsible for planning how the organization will adopt the changes, identifying necessary training, testing the changes, and then implementing them as standard operating practices (SOPs). The Change to Win process is not used for problem solving, although it can be adapted to do so; rather, it is used for introducing and integrating higher standards of performance into business

processes. Through education and hypothesis testing, team members develop new views and perspectives as their knowledge and understanding of a situation expands. With the new, higher thinking, they bring better solutions, techniques, and processes into the organization.

Workbook Purpose

This workbook is a tool for finding the best practices that can better an organization and to test that those changes will truly lift performance. The workbook brings management and employees together in finding, supporting, and driving continuous business development and progress. The workbook contains a structured method to introduce positive change and improvement into an organization in 100 days. It gets workplace people involved a making the change and builds ownership for the change and its success. It is a vehicle to set higher standards of performance and accomplishment, which encourages the people in the organization to recognize their problems, find new solutions and better ideas to address situations, learn how to do things for themselves, and plan how to reach them in the surest and quickest ways possible. The process encourages their ownership and commitment to implement the solutions while ensuring that the improvements become standard operating practice. It draws together managers, supervisors, technical specialists, and employees in teams dedicated to bringing better business practices and systems into the operation; it is a tool that lifts and stabilizes business performance at a higher level.

Duration

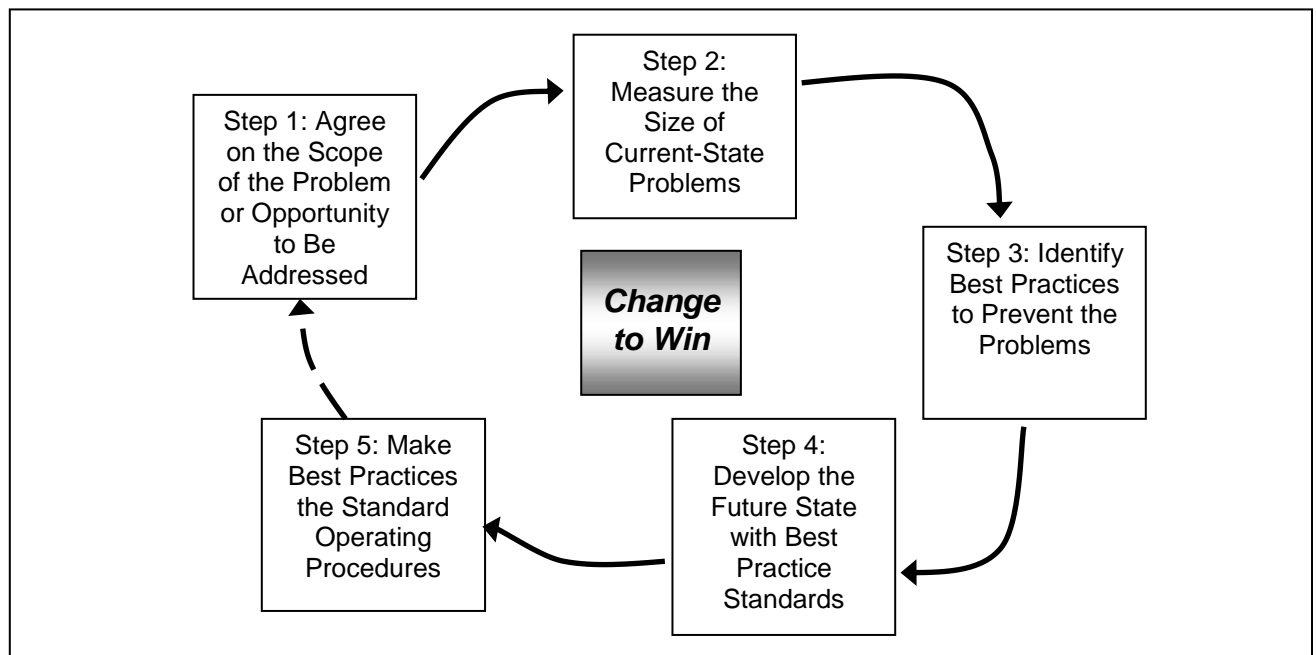
The Change to Win process takes 100 days and encompasses management preparation, three preparation meetings, 10 implementation team meetings, workplace trial and error, and final

implementation. The program is used repeatedly across an organization, within and between departments and along business processes, to help companies and their people create desired change and improvement.

Outcomes

- Embed best practices in the organization
- Remove errors, mistakes, and failures
- Instill continuous improvement as normal practice
- Standardize work, performance, and results
- Gain agreement and commitment throughout the operation
- Provide fast, on-the-job training
- Create system-based methods that are person independent
- Change people's beliefs by changing people's actions
- Achieve higher and more reliable business performance

Figure 1—The Five-Step Change to Win Process



- **Step 1: Agree on the Scope of the Problem or Opportunity to Be Addressed:** Get senior management support, select the processes to be changed, identify the goals and measures, justify the need for change, develop a communication plan to advise relevant people, and identify necessary resources. Scale the project to be completed within the 100 days available so that clear evidence of its worth and value can be observed at its completion.
- **Step 2: Measure the Size of Current-State Problems:** Identify the extent of the problem(s), clarify the impact they have on the business, and gather data to confirm the consequence of their effects.
- **Step 3: Identify Best Practices to Prevent the Problems:** Fix the causes of the problems or change the system to prevent the problems from arising; investigate which best practices solve the problems.

- **Step 4: Develop the Future State with Best Practice Standards:** Clarify how to use best practices to solve the problems, develop a future-state vision, make a plan to introduce the changes, explain the plans to management, and write the best practices into ACE 3T procedures.
- **Step 5: Make Best Practices the Standard Operating Procedures:** Test the new SOPs and practices, fine-tune the SOPs and issue them throughout the operation, and conduct on-the-job training in SOPs to embed the improvements.

Components of the Five-Step Change to Win Process

Step 1: Management Preparation and Project Scope Definition

Background

In order to start a project, it is necessary to define the extent of the work to be done and provide sound justification for it. It is the role of management to identify the problem(s) to be addressed by the project and provide evidence that they are real and have caused serious issues for the business. Be realistic in sizing the project: it must be achievable in the 100 days available. When the project is successful, it is rolled out across the business as a separate justification.

Vision, Goals, and Objectives

Management is aware that change is needed, and they know what outcomes they want from making a change. These outcomes become the goals for the project. To begin the Change to Win process, the organization's management must provide a written mission statement along with the goals that, when achieved, will deliver the mission. The implementation team uses the goals to select appropriate strategy and tactics to achieve the objectives.

Justification

Evidence to justify the project can be provided in terms of costs, loss of performance, or lost opportunities. The necessary data are collected by an appointed manager and provided to the

Change to Win Team as a baseline against which future improvements will be measured. The preferred means of displaying the data is in a table with accompanying histogram, Pareto, or other suitable visual management charts.

Executive Support

Changing the way an organization works requires the visible, consistent commitment and support of executive management from the beginning to the end of the change. The organization requires leadership, and that is the function of executive management. The Change to Win program needs a champion from the top management ranks who will become the visible presence of executive management leadership. His or her role is to provide support for the change and to keep executive management up to date with progress and major issues. At times, this person may need to intercede to ensure the project gets the necessary resources to be completed successfully.

Preparation

To ensure that the Change to Win program will lead to good results and improvement, it is necessary for the executive managers and affected department managers to plan the change process carefully. An activity table for the entire program is developed showing the various people involved in the program, when they will be required, and the activities they will be doing. This overview of the process facilitates discussion and assists in identifying project risks and resource constraints. An example of a Project Activities Summary for a project to introduce a change into the operating and maintenance practices of a business is shown in Table 1.

Managing change in an organization requires change management methods and systems. Early leadership and clear, widespread communication is critical. Figuratively speaking, it is like taking a little old lady visiting a big, hectic city safely across a busy road. Preparation, discussion, planning, guiding, timing, and encouragement are critical if you are both to get to the other side safely in a courteous and friendly way. Launching a project without planning the correct change management requirements and ensuring that they have the resources to be met will ensure the project is doomed.

Table 1—Example of a Change to Win Project Activities Summary

Week	Chief Executive Officer, Executive Team, Operations and Maintenance Managers	Executive Champion, Operations and Maintenance Managers and Supervisors, Implementation Team Leader	Maintenance Manager, Supervisor, and Implementation Team	Outputs	Comments
Pre- projec t	Scope and Targets of Project; Communication Plan			Organizational Communication, KPIs	
1	Explain Scope to Supervisors and Team Leader	Introduce Precision Maintenance; ACE 3T Procedures; Select Plant and Equipment to Be Precision Maintained and Monitoring KPIs		Select Plant and Equipment for Precision Maintenance	Introduction
2		Set Standards; Select Authorities, Agree on Best Practices to Meet; Select Project Team, Identify Needed Resources; Set Meeting Times		Set Standards to Achieve; Acquire Authorities	Plan
3	Explain Scope to Shop Floor Teams		Introduce Precision Maintenance; ACE 3T Procedures, Team Duties; Project Plan, Match Equipment and Standards; Identify Procedures for ACE 3T	Business Systems Changes	Plan

4			Identify and Bridge Gaps between Current Practices and New Standards; Draft First Procedure into Standard ACE 3T Format	Business Systems Changes	Plan
5	Commit to Agreed Standards		Draft Procedures into Standard ACE 3T Format	Business Systems Changes	Do
6			Review and Continue to Draft Procedures into Standard ACE 3T Format	Business Systems Changes	Do
7			Review and Continue to Draft Procedures into Standard ACE 3T Format; Identify Test Equipment, Tools, and In-the-Field Support and Training for Implementation	Business Systems Changes; Get Additional Help and Resources	Do
8	Review Progress and Provide Support		Review and Sign Off on New 3T Procedures	Business Systems Changes	Do
9			Implement Procedures on Selected Equipment and Additional Support	Use, Learn, Adjust	Do
10			Implement Procedures on Selected Equipment and Additional Support	Use, Learn, Adjust	Do

11			Review Implementation and Identify Necessary Adjustments to Procedures, Practices, and Support; Review KPIs; Include Adjustments and Improvements in Procedures; Continue with Implementation	Use, Learn, Adjust	Check
12			Implement Procedures on Selected Equipment and Provide Additional Support	Use, Learn, Adjust	Act
13	Review Progress, Review KPIs; Celebrate and Extend Program		Review Progress, Review KPIs; Celebrate and Extend Program	Use, Learn, Adjust	Act

Choosing the Change to Win Project

A Change to Win project maybe initiated for many different reasons.

- Management or other interested parties have identified an opportunity and want to conduct a pilot for an area. In this case, the team takes on the role of initiating a defined improvement assignment.
- A problem has become so large or its consequences so severe that current practices are inadequate to resolve it and a means to stop the problem needs to be found, tested, and put into place. The team has the duty to look for improved methods and practices that will resolve the troublesome problem(s).

These are some attributes to consider when selecting the project:

- Is the opportunity significant?
- Are the people in the affected area(s) likely to support the initiative?
- Is there a positive team leader available in the area?
- Does the organization have existing capability to support and sustain a change?
- Is management committed to providing resources, time, and money?
- Are there major capital projects plans for the area that would confuse project outcomes?

To aid in selecting projects for a Change to Win program, projects can be rated by the added value they bring to the organization's internal and external clients and by the increased

profit to the organization. Each potential project is rated using the “Ratings Guide” score and placed on a value matrix, like that shown in Table 2. The worth of the project is determined by its Value Index.

Table 2—Project Value Rating Table

Project Description	Value-Added Ratio	Impact on Performance	Ease to Implement	Frequency of Problem	Value Index
	A	B	C	D	$A \times B \times C \times D$

Table 3—Ratings Guide

Value-Added Ratio	Range of Scores (1–5)
Substantial increase in value-added ratio expected by removing waste from the process	= 5
Little change in value-added ratio	= 1
Impact on Performance	
Little impact on performance such as throughput, production time savings, changeover time	=1
Major impact on performance, substantial time saving, strong productivity improvement	=5
Ease to Implement	
Very involved solution requiring much time and resources	= 1
Not time consuming, can be completed within the project time frame	= 5
Frequency of Problem Solved	
Major frustration to people because it happens often; does not occur often but creates much extra work	= 5
Not a major problem for people; easily fixed when it does happen	= 1

Value-added activities are those that advance the product (or service) to a more completed stage by doing the activity. Value-added activities change the shape of the product or service. Every other activity is a cost and considered to be a waste. Unnecessary waste activities need to be removed. Those waste activities that are required must be reduced by improving the efficiency and effectiveness with which they are done. The value-added ratio for a process is calculated by adding together all value-added activity times and dividing by the total time for the process.

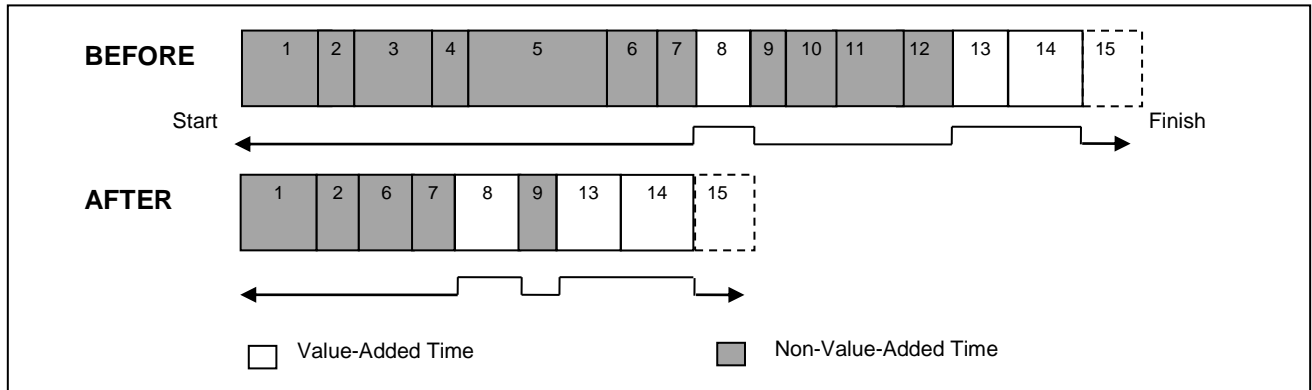
$$\text{Value-Added Ratio} = \frac{\text{Times Value Is Added}}{\text{Total Time for Process}}$$

If it is necessary to gauge the size of the project value-added to be gained, a list of all activities and their times in the process is written. The change in the value-added ratio attributable to the project is estimated by removing the wasted time likely saved because of the project. An example of calculating the value-added ratio before and after for a work process is shown in Table 4.

Table 4—Value Improvement Calculation Table

Task	Description	Current Time (Min.)	Current Value- Added	Future Time (Min.)	Project Planned Changes
1	Drop carton of components at doorway	2	N	2	
2	Walk 8 meters to pick up components	0.25	N	0.1	Bring parts right close-in
3	Remove carton wrap to expose components	2	N	0	Prearranged components
4	Reach into carton and grab components	0.25	N	0	Prearranged components
5	Orient components so they can be picked up	5	N	0	Prearranged components
6	Pick up bolts for component	0.5	N	0.5	
7	Walk 8 meters to the frame on assembly line	0.25	N	0.1	
8	Position components on the frame	1	Y	1	
9	Walk to power tool	0.25	N	0.1	Bring tools right close-in
10	Reach for power tool	0.1	N	0	Hang power tool beside job
11	Walk and pull tool to component on frame	0.5	N	0	Hang power tool beside job
12	Bring power tool down to component	0.1	N	0	Hang power tool beside job
13	Place bolts in the component	0.25	Y	0.25	
14	Tighten bolts to frame with power tool	0.5	Y	0.5	
	TOTAL	12.95		4.55	
15	Walk 8 meters to pick up next components		N		
	VALUE-ADDED RATIO	13.5%		38.5%	

Table 5—Value-Added and Non-Value-Added Time Chart



Scope of the Project

The **scope of the project** is the extent of the operation affected by the change(s) to be implemented. A one- or two-paragraph summary of the Change to Win Project scope is provided by senior management to the Change to Win Team as a means to focus their efforts and guide the extent of their investigations and changes.

A useful aid is to physically define the boundaries for the team. These may be geographic boundaries, process equipment lines, or business processes.

Task—Management: Using a plan of the site, a process diagram of a production facility, or a business process flow map, agree and draw lines to define the physical and/or process limits the Change to Win Team must work within.

Resource limits available to the team will need to be specified. These include available manpower, management mentors, extent of internal and external help allowed, financial limits, and the extent of secretarial help provided, along with any site-specific factors.

Implementation Team

As management will pass the implementation of the change to a workplace team, it is necessary that the team members

- Be from the affected business processes
- Include the manager and supervisor of the process
- Be willing to work on the introduction of change
- Have useful skills or knowledge to contribute
- Be able to positively influence people in the workplace
- Be willing to consider new ideas and options

Task—Management: Select the implementation team leader. With the chosen team leader, then select the other members of the team. As a matter of courtesy, it is necessary to personally ask each individual whether he or she will participate in the project.

Defining the Means to Measure Project Results

In order to know that positive change occurs as a result of the project, both the current baseline and the means of measuring a change from the baseline need to be determined and provided to the team. The baseline is represented by the data on current performance collected as part of the management preparation requirements. It is now necessary to provide or develop high-level measures or indices to gauge the corporate benefit brought by the project.

The measures need to be relevant to the project, and accurate data must be available to use when compiling the measures. A maximum of six measures can be used, although one alone may be adequate. The chosen measures need to be robust and sound, acceptable to all interested parties, and reflect the true impact of the project on the business and its performance. Measures can be financial, operational, process performance, group performance, etc.

Communication Plan

Part of preparing for the three-month-long project is to identify all the people who need to know about it and will be affected by it. This includes shift workers, office staff, other managers, other departments, corporate personnel, health and safety, insurers, etc. To help identify the full list of people needing to be told of the project at its various phases and the means by which to tell them, a tabular communication plan, along the lines of the example in Table 6, is developed.

Table 6—Example Communication Plan

Project Phase	Task Name	Who Needs to Know? (Name/Position)	Description	Told by Whom?	How Will They be Told?	By When?	Comment
Preparation	Develop project requirements and Communication Plan, select executive champion, establish team.	John Brown/CEO Pam Neal/VP Ops Mike Teal/Ops Mgr Fred Love/Maint Mgr	Development of processes for implementation of project. Discuss setting exact requirements and desired results, team composition	Facilitator	Board room meeting	14-Sept	
	Explain scope to project team members	All team members and afternoon shift foremen	Introduce project, scope and purpose. Advise of selected operation for project. High-level monitoring KPIs	CEO	Board room meeting	21 Sept	Bring in afternoon shift foremen early for meeting
Plan							
Do							
Check							
Act							

Communication Board

To help keep in contact with other shifts, other departments, and interested people, a Communication Board is established at a suitable location. The things that are put on the board include the following:

- Team name
- Team scope and goals
- Photo of the team
- Action sheets
- Measurement and monitoring charts
- Graphs and trends
- Investigation results and findings
- Project plan and schedule
- Meeting dates and attendance records
- Before and after improvement sheets
- Drawings and diagrams

Managing the Process

Project Meetings

The team members meet weekly at a suitable venue for a maximum duration of 90 minutes. They will finish earlier if all the business of the meeting is completed. To ensure on-time finish, the team members should be at the meeting before its start time; they must be prepared for it; and they must keep their contributions succinct yet clear. If a meeting runs over the 90 minutes, the chair asks the meeting for an extension of time of up to 15 minutes. Those people who can stay remain, and those who must leave are advised later of the outcomes. Once the extension time is up, or if a key team member to a decision is not present, business remaining is carried over to the next meeting or, preferably, issues are addressed during normal work time and reported at the next meeting.

An **agenda** is the best way to control a meeting and make clear to participants what is to be discussed. A good agenda has a clear purpose for the meeting to achieve; a detailed, logical list of items that address the purpose and produce the desired outcomes when completed; an estimated time for each item so it can be covered properly within the time allowed for the meeting; and a circulation list of the meeting outcomes so that relevant people are kept informed. You can be sure that the better the agenda is prepared, the better the meeting runs. An example is shown in Table 7.

Table 7—Example Implementation Team Meeting Agenda

Introducing Precision Maintenance Project Meeting 2, Thursday 9 August 2008 1.00pm–2.30pm in Board Room “Fly on the Wall” Team				
<u>Meeting Purpose:</u> Set maintenance standards; select authorities, agree on best practices to meet; identify necessary internal and external resources <u>Chair:</u> Fred Love—Team Leader				
Item	Action	Led By	Timing	Schedule Start
1.	Review Attendance Sheet & Project Plan Progress	Sam	2 min	1.00pm
2.	Review Meeting Action Sheet items completion	Jane	3	
3.	Identify best practice standards that apply	David	15	
4.	Select the Recognised Authority for each standard	David	15	1.35pm
5.	Decide which best practices to adopt in the operation	Mike	25	
6.	Identify necessary internal and external resources	Roger	15	2.00pm
7.	Review actions from this meeting	Jane	2	
8.	Copy and distribute Action Sheet to meeting attendees	Jane	3	
9.	Review meeting outcomes	Fred	5	2.25pm
<u>Action List Circulation:</u> Team Members, Department Managers, Supervisors, Communication Board				

The following are some guidelines for developing an agenda:

- Identify the meeting purpose: what does the team need to achieve by the close of the meeting?
- Include anything that was not achieved in the last meeting.
- Include relevant issues to bring to the team’s attention since the last meeting.
- Look at the workbook and the project schedule to determine what comes next.

- Team meetings typically start with a welcome, then confirmation of attendance, checking progress against the project plan, reviewing the status of the Action Sheet items for which members are responsible (the Action Sheet is explained next in the workbook).
- Include into the agenda any action items that need more discussion.
- Consider the purpose of the meeting and identify issues to be discussed and agreed upon by the team in order to achieve it. Lay out agenda items in logical order to produce a well-considered outcome. Where there is more than one purpose, separate it from the others and develop its own portion of the agenda, so that when it is completed, the necessary outcomes to meet the purpose are achieved.
- When estimating agenda items times, be realistic and give sufficient time for open discussion. If necessary, contact the people leading an item and ask them how much time they need. If the total time exceeds the meeting time, remove some items or plan for it to be finished outside of the meeting.
- The end of the meeting should include the following:
 - Confirming new actions and responsible people
 - Items to be added to the next meeting agenda
 - Reviewing how the meeting went to find ways to improve it
 - Confirming date and time of the next meeting

The Action Sheet

When tasks to be done are identified during the meetings, they are recorded on the Action Sheet. A brief yet clear description of the action task is provided, as well as who is responsible for it and an estimated completion date.

The Action Sheet is a running document in continuous use. Each new action takes the next sequential number and is added under the last recorded action. At the start of each meeting, unfinished actions are reviewed, those completed are given a status of 100% finished, the completion status of those still under way is updated, and those that are past their original estimated completion date are rescheduled to the new expected completion date.

<p><i>Task—Action Sheet Recorder:</i> Action Sheets are copied and handed to each team member at the end of each meeting. Copies are circulated to people on the circulation list.</p>

An example of an Action Sheet format is shown in Table 8.

Table 8—Example Implementation Team Action Sheet

ACTION SHEET						
Page 1 of 2.						
Meeting Subject: Introducing Precision Maintenance				Venue: Board Room		Date: 23 Aug 07
Attendees: Roger, Mike, David, Sam, Jane, Bill						
No	Meeting Date	Action	By Who	Target Date	Revised Date	Percent Complete
1	2 Aug 07	Require report on planned changes	Bill	9 Aug		100%
2		Draft KPIs for project measurement	Bill/Roger	9 Aug		100%
3		Book Conference Room for rest of project	Sam	9 Aug		100%
4		Produce production downtime report to-date	Roger	9 Aug	16 Aug	100%
5	9 Aug 07	Complete survey	David	30 Aug		75%
6		Distribute production downtime report for comment	Roger	16 Aug		100%
7		Compile list of useful maintenance standards	David	16 Aug		100%
8		Identify recognized Authorities	David/Bill	16 Aug	23 Aug	50%
9	16 Aug 07	Produce list of maintenance procedures	Roger	23 Aug		100%
10		Type-up team rules	Sam	23 Aug		100%
11		Phone list of team members	Mike	23 Aug		100%
Next Meeting: Date: 23 August 2007 Time: 1:00pm Place: Board Room						
Circulation: Team, Department Managers, Department Supervisors				Complied By: Jane		

Implementation Team Roles

Effective change requires the involvement of management and staff working together.

Management set the direction or vision, they set the goals and measures, they provide the support and resources, and they sustain necessary effort until the goals are achieved. The staff are the workplace experts and the best people to plan and implement the changes needed in their workplace to reach the vision.

People in the team must feel that some sense of change and achievement is happening. Sharing tasks is a valuable way to allow everyone on the team to contribute to the success of the project. The greatest value is gained from team members when they contribute their specific skills and knowledge to the project. This means that being part of a team is also a good opportunity for people to learn new things by helping others to complete tasks. The team leader should encourage team members to share those activities that are an opportunity to be a learning experience.

Completing assigned tasks is usually done outside of the meeting, so team members' managers need to allocate time for tasks to be performed during the week. It is the sponsoring executive manager's role to ensure that adequate time is allocated by departments to people on the team for the project.

To promote the opportunity to share in and grow from the experience, each team member takes on a role and manages its duties during the program. An example of team tasks to be allocated in a project is shown in Table 9.

Table 9—Example Implementation Team Roles and Duties

Precision Maintenance Project Team Structure and Duties			
Position	Primary Duty	Secondary Duties	Name
Team Leader	Organizes and leads meetings, develops agenda, encourages participation by all; coordinates resources throughout the company	Assist in reviewing procedures	
Assistant Team Leader	Writes, maintains and distributes Action Sheets, relieves for team leader if not available	Manages documents and records	
Researcher 1	Gathers best practice methods from authorities	Assist in writing procedures	
Researcher 2	Gathers best practice methods from authorities	Assist in writing procedures	
Writer 1	Drafts best practices into procedures	Reviewing procedures	
Writer 2	Drafts best practices into procedures	Reviewing procedures	
Writer 3	Drafts best practices into procedures	Reviewing procedures	
Reviewer 1	Reviews draft procedures and works with writer to refine	Takes photographs, updates Communication Board with progress fortnightly	
Reviewer 2	Reviews draft procedures and works with writer to refine	Collects KPI measures and graphs them	
Reviewer 3	Reviews draft procedures and works with writer to refine	Collates project documents from all others into project folder/files	
Facilitator	Helps and coaches team through the process, provides support to the team leader	Acts as catalyst for change and assists team to challenge status quo	

The facilitator is usually a person experienced in team/project facilitation from outside the workgroup whose role is to guide the team through the Change to Win program workbook and successful project completion. He or she assists the team in such duties as helping the team leader prepare the agenda, conducting analysis of data, helping team members in developing forms and surveys to collect information, and providing advice in running the program effectively.

<i>Task—Team Leader:</i> Team agrees on roles for members.

Team Rules

Teams work together best when there is an accepted structure of behavior for members based on shared values. Cooperation is greatly enhanced if the team agrees the rules of behavior for the team members. Examples are as follows:

- Punctuality
- Notifying inability to attend a meeting
- Courtesy when speaking
- Sharing the workload
- How to encourage contributions from members
- Completing agreed actions and how to advise problems that affect them
- How to have effective meetings that get through the agenda on time
- Methods to communicate to each other outside of the meeting

Task—Team Leader: Team agrees on the team rules for its members.

Project Plan and Schedule

The Change to Win program runs over a 100-day period during which the required change or improvement is to be planned, prepared, trialed, authorized, and implemented. Each of the five steps in the process will need to be completed, including the individual activities within each step. To provide direction to the project and to allow progress to be measured and managed, a project plan like the example in Table 10 is developed.

Table 10—Example Change to Win Project Plan and Schedule

Precision Maintenance Project Plan and Schedule																
	Date		2/ 8	9/ 8	16/ 8	23/ 8	30/ 8	6/ 9	13/ 9	20/ 9	27/ 9	4/ 10	11/ 10	18/ 10	25/ 10	
No.	Project Steps	Week	Prep	1	2	3	4	5	6	7	8	9	10	11	12	13
1	Agree on the scope of the problem or opportunity to be addressed															
2	Measure the size of current-state problems															
3	Identify best practices to prevent the problem															
4	Develop the future state with best practice standards															
5	Make best practices the standard operating procedures															
	Phase		Plan				Do					Check		Act		

Weekly Activities
Scope, Targets, Communication Plan
Select area of business, Affected Processes, KPIs
Set Standard, Authorities, Chose team and necessary resources
Team meets, Project Plan, Affected procedures
Current State mapped, Identify new standards to bridge gaps
Draft best practices into procedures, Identify needed resources and training
Draft best practices into procedures and review
Draft best practices into procedures and review
Sign-off on new procedures, Present progress report to senior management and all shifts
Implement procedures, on-site-training
Implement procedures, on-site-training
Review implementation, Review KPIs, Adjust documents and resourcing as necessary
Implement procedures, on-site-training
Final presentation, to senior management and other shifts review implementation,
Review KPIs, Celebrate and extend program

The plan and schedule assist the team in managing themselves and the tasks to be performed. The steps are allowed to overlap with activities starting and stopping at varied times. The important factor is to complete the project on time. The plan and schedule let the team review progress, so that it will become apparent if additional effort and resources are needed early enough to mobilize them, or to scale back the project expectations and retarget efforts over the time remaining. Each week the team tracks project progress and meeting attendance. The progress records are updated on the Communication Board. The aim is to

- Make sure all the resources necessary are at the meetings
- To highlight whether team members are having trouble getting to the meetings
- To identify whether team members are having trouble completing tasks and needs additional resources
- To ensure the project is not falling behind schedule.

For each Change to Win project, it is necessary to develop its own project plan and schedule identifying the key tasks and dates for completion. Table 11 is an example of a project tracking sheet used to monitor progress and allow people to schedule their time and ensure resource availability.

Table 11—Project Team Activity Tracking Sheet

Precision Maintenance Project Plan																
	Date															
No	Project Steps	Week	Prep	1	2	3	4	5	6	7	8	9	10	11	12	13
1	Agree on the scope of the problem or opportunity to be addressed															
2	Measure the size of current-state problems															
3	Identify best practices to prevent the problem															
4	Develop the future state with best practice standards															
5	Makes best practices the standard operating procedures															

Project Team Meeting Attendance															
Name	Role	Prep	1	2	3	4	5	6	7	8	9	10	11	12	13
	Executive Sponsor														
	Department Manager														
	Department Supervisor														
	Team Leader														
	Assistant Team Leader														
	Researcher 1														
	Researcher 2														
	Writer 1														
	Writer 2														
	Writer 3														
	Reviewer 1														
	Reviewer 2														
	Reviewer 3														
	Facilitator														

Step 1 Completion Checklist

Step 1 is complete when the following outcomes are accomplished:

- ☐ Project chosen and justified
- ☐ Mission and goals clearly defined
- ☐ Project scope clearly defined
- ☐ Executive champion selected
- ☐ Processes requiring change identified
- ☐ Required resources identified
- ☐ Measures for monitoring project selected
- ☐ Communication Plan developed
- ☐ Project Team selected
- ☐ Team roles allocated
- ☐ Meeting rules agreed upon
- ☐ Action Sheet tasks allocated
- ☐ Communication Board under way

Step 2: Measure the Size of Current State Problems

In Step 1, management identified a necessary change to the business in order to improve its future prospects. In this step, the implementation team identifies which business processes and procedures have to change so that the pilot initiative will succeed. The purpose of this step is to justify the change and to confirm that the change will bring worthwhile improvement to the organization.

The team has been given the duty by management of planning and implementing a change to trial new ideas in the organization. For change to be successful and effective in the long term, it is necessary that there is:

- **NEED FOR CHANGE**

There must be a strong enough reason, or pressure, for change, such as changing competition, poor customer satisfaction, changing legislation, entering into new markets, etc.

- **A CLEAR, SHARED VISION**

Management and staff need a clearly defined and shared concept of why change is necessary and how much it will improve performance.

- THE CAPACITY FOR CHANGE

For an organization to change, it must have access to the resources and skills to both implement and sustain the change.

- ACTIONABLE FIRST STEPS

The change will only occur if the staff has involvement in its development and implementation. The people affected by the change need to feel a sense of the worth of its achievement.

- MODEL BEHAVIOR

Executive values heavily influence organizational characteristics. Management will need to practice the values and vision underpinning the change program.

- BENEFICIAL REINFORCEMENT

Staff needs to be rewarded for instituting the change and given regular feedback on the organizational and personal benefits flowing from it.

During the Change to Win program, each of these six elements will be addressed to provide a sound and solid base for the change being implemented. In this step, the first three elements—Need for Change; A Clear, Shared Vision; and Capacity for Change—will be investigated and quantified.

Gathering Data

During this step, a number of tools and techniques will be used to assist in analyzing and understanding the situation. These include the following:

- Data gathering
- Surveys
- Value stream mapping
- Business process diagrams
- Pareto charts

Mapping Current Processes

The mission, goals, and scope developed during the planning and preparation phase are used to identify which business processes are to be reviewed and changed as part of the project. We need to get a detailed process map, or process diagram, for each of those processes. The level of detail required in process diagrams is such that every activity performed in the process is shown. It is not necessary to show the tasks performed in the activities, only the activities themselves. Figure 2 shows the level in the organization at which the process maps are needed.

Figure 2—Defining Process Diagrams by Business Level

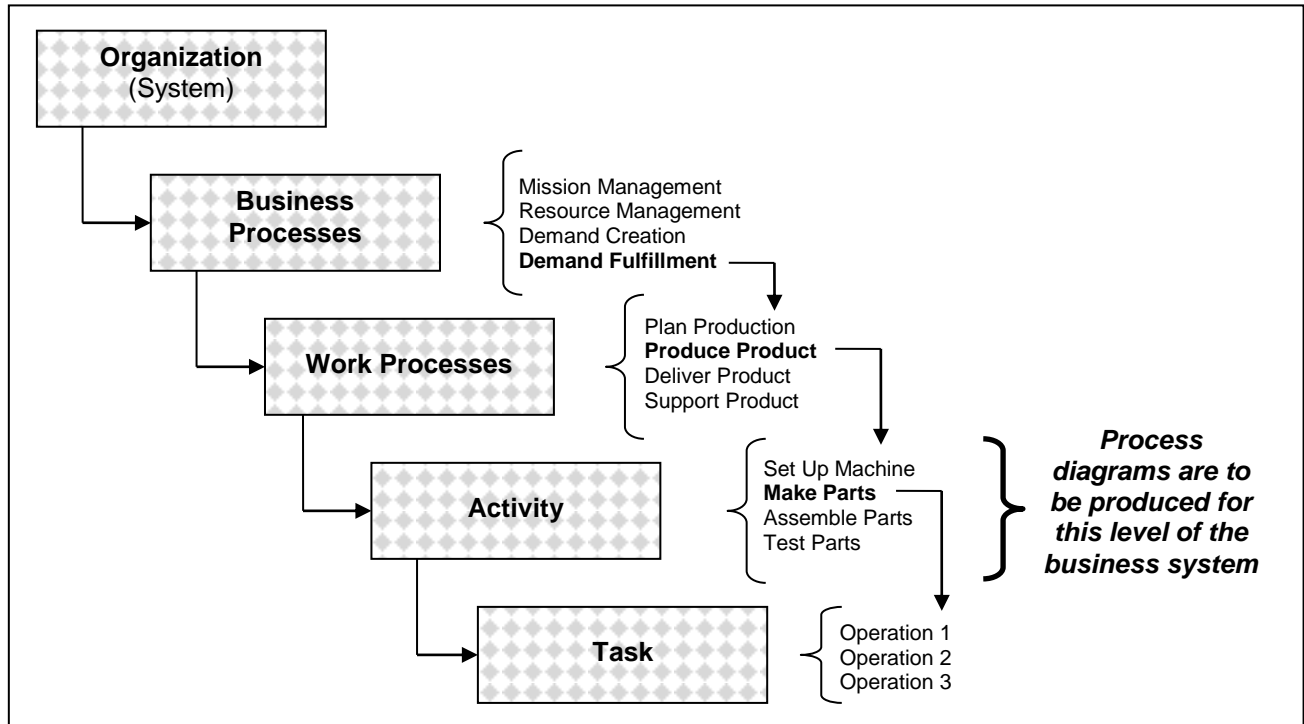
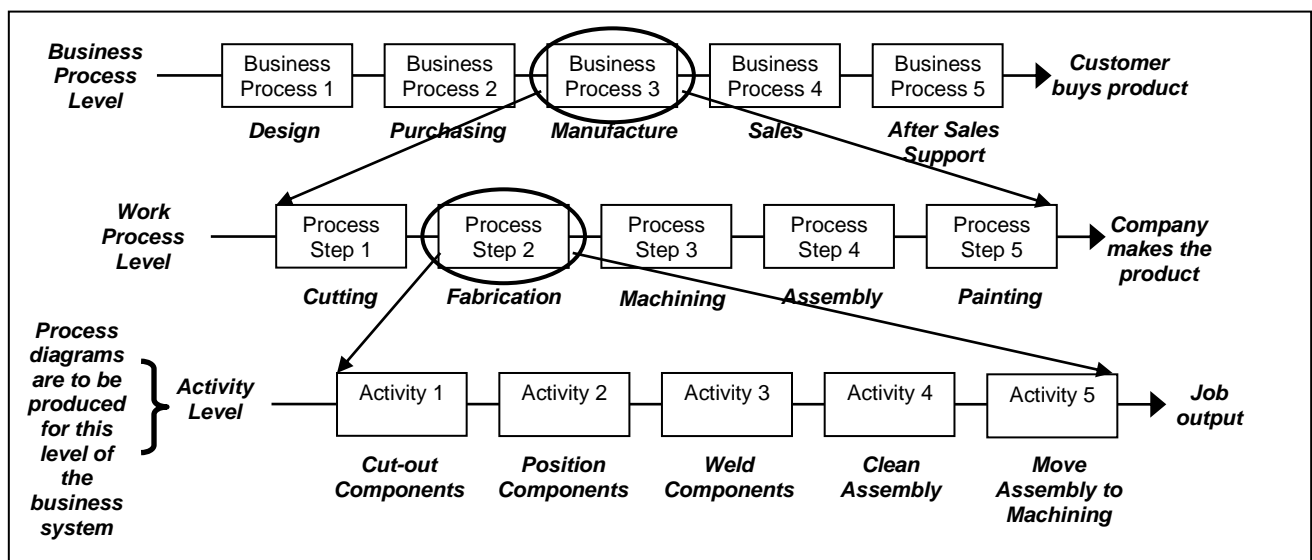


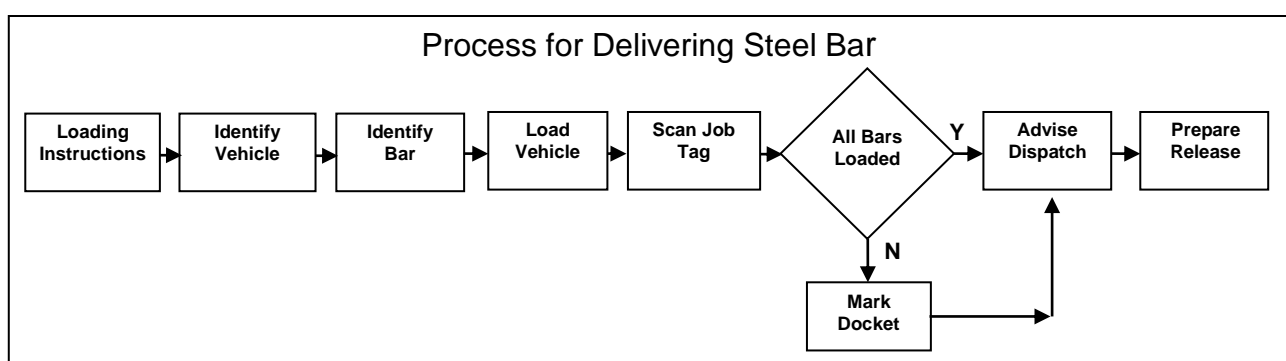
Figure 3—Activity Level for Process Diagrams



It is necessary for all team members to get a sufficiently detailed understanding of the activities occurring within the organization's work processes so that they are comfortable with the range of issues and discussions the team will cover. By having the details of all the process activities affected by the change, the impact of the proposed change can be more fully identified and appreciated.

If the activity-level process diagrams already exist, collect them in a master folder. If they do not exist, they need to be drawn correctly and in full. Neat hand sketches are adequate for the purpose, or they could be drawn using a computer and suitable software, such as Microsoft Word's drawing tools, Microsoft Visio, AutoCAD, CorelDraw, or other similar drafting packages. An example of the format and level of detail needed on the activity level process diagrams is shown in the sample drawing below. Draw the flow across the page, left to right, for later use in identifying value stream improvements.

Figure 4—Example of an Activity-Level Process Diagram



Identifying Associated Procedures and Work Instructions

Once it is clear which processes will be affected by the change, it is necessary to collect together both a hard copy and soft copy (if available) of all applicable procedures, work instructions, records, and forms generated in those processes. They may all need to be updated because of the change, and a copy of the current “approved for issue” documents is needed so that any new changes can be included in them.

Managing the Data and Information

A lot of documentation and information will be collected and created as the team conducts the Change to Win project. These documents need to be filed in a central location for easy recovery when necessary. Hard copy documents require labeling using stick-on labels, showing such details as the following:

- Title
- Site, location, process where the data refers
- Date filed
- Name of who collected or created the document, so people know who to talk to in future

Task—Assistant Team Leader: Develop an electronic and hard copy central filing system. Set up the document naming convention for the project and advise the team members how to label and identify project documents and where to store them.

Identifying Current Problems

Although senior management authorized the pilot change, it is important to collect facts from the workplace and/or the marketplace that support the reason for the change. This lets people in the organization know that the new initiative is important to the future well-being of the operation.

Changing Workplace

If the change is needed because the workplace practices used by the organization no longer provide required marketplace, operational, or financial performance, then the team should collect evidence from the relevant workplaces on the problems and identify and measure the impact they have on the operation. There are several methods listed below to collect evidence of any existing problems.

Business Databases

Your company will have information on its problems recorded in its various databases. Examples are in maintenance management systems, production reporting systems, production logbooks, customer complaints, health and safety systems, and so on. If appropriate to the situation, these databases can be accessed, and the information they contain on the problems impacting the business can be Pareto charted to highlight the frequency and consequences of the problems the change intends to solve.

Workplace Surveys

Another way to understand the problems from an employee's or customer's point of view is to carry out a simple survey. This is most easily done using a survey form distributed to all the people working in the affected processes, asking them to list all the problems that interfere with them doing their work. This provides the team with further clues on what the problems are, and, most importantly, the frustration experienced at the workplace. This type of data can be very subjective and anecdotal. However, it can be critical in understanding all of the problems, and, later on, developing buy-in from the organization when changes are proposed. The survey needs to be distributed to all people working within the processes affected by the change so that no one feels left out.

Figure 5—Sample Workplace Survey

Project Survey Form			
Please answer the questions on the form and return it to your Supervisor by the end of the shift.			
Your Job Title: _____ The Plant/Line/Group you work in? _____			
List the problems that stop you from doing your work.	How often does it happen in the best/average/worst situation? (e.g., 1/wk, 4/wk, 10/wk)	How much time is lost on average when it happens?	What other waste is caused by the problem?

Tip: Ensure that the survey collects information from the right people.

Here is an example of a survey gone wrong: Forklift drivers were asked to record lost time loading trucks. The surveys came back showing there was no lost time in truck loading. The time lost was recorded as waiting for pallets to be made up that would then go on trucks. The problem that was missed was that the truck drivers stood about waiting for forklifts that were busy doing jobs not related to the truck waiting to be loaded. The survey for lost time loading trucks should have gone to the truck drivers, not the forklift drivers.

Tip: A nice way to get a survey completed is to hold a breakfast or pizza lunch, where the price of admission is a completed survey form from the target group.

Once the surveys have been returned, all the information is consolidated into a matrix (a large spreadsheet) for each process affected by the change. The easiest method is to use the process name and list all the answers recorded for it in one long table. *When listing the comments, don't "sanitize" them by putting your own interpretation down; write them as they are written unless there is offensive language to be removed.*

Once the list is compiled, sort the comments into categories that contain the same problem. For example, the survey results might show that time is lost waiting for lifting by cranes and forklifts. In such a situation, you would make two categories—"Waiting for Forklift" and "Waiting for Crane"—because the times lost waiting are attributable to different causes. Tally the total of the answers in each category and create a first-level Pareto chart of the category name and the count. The Pareto chart shows the type and size of the problems affecting the people surveyed.

If there are many categories of problems, these can be collected under higher-level categories or groupings. This creates a second-level Pareto chart. For example, the "Waiting for

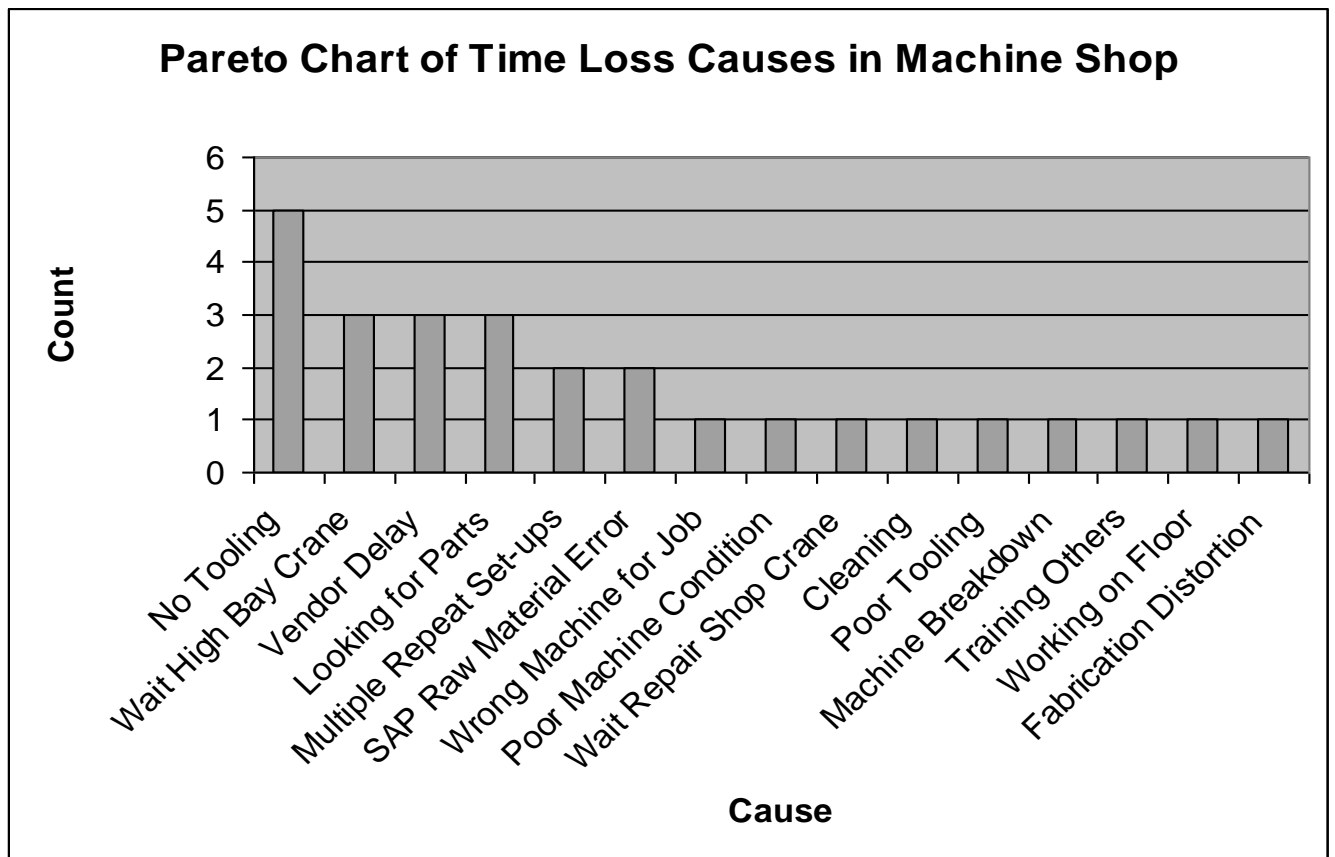
Forklift” and “Waiting for Crane” problems can be collected under the category “Materials Lifting Problems.” If many pieces of equipment are involved in a process breakdown, they could be grouped by “Equipment Failures,” not as breakdowns of individual equipment.

Pareto Charts

A Pareto chart is a special form of bar graph used to display the relative importance of problems or conditions. A Pareto chart allows one to do the following:

- Focus on critical issues by ranking them in terms of *both* loss and frequency (e.g., which machine causes the most downtime? Which machine breaks down most frequently?)
- Prioritize issues or causes in order to initiate efficient problem solving by focusing efforts on the “important few” (e.g., what delay should we tackle first? or, the solution of what process problems will most reduce waste time?)
- Analyze problems or causes by different groupings of data (e.g., by time waste type, such as mechanical, electrical, process, changeover, other)
- Analyze the before and after impact of changes to a process (e.g., what is the most common waste before and after the change? Has the improvement program reduced the extent of losses?)

Figure 6—Example of a Pareto Chart



An example of a Pareto chart is shown in Figure 6. A Pareto chart is constructed by grouping the range of the data by categories. The left-side vertical axis of the chart is labeled “Frequency” or “Count,” for the number of counts in each category (the right-side vertical axis can also show a cumulative percentage of the total), and the horizontal axis is labeled with names of the groups or categories. The Pareto chart will clearly identify the issues that bring the greatest improvement potential to the organization.

Calculating Costs

From the estimate of the time losses provided in the survey, the team can calculate the cost of the time lost monthly and/or yearly in each problem category using the recovery rate of the people doing the job. The recovery rates can be found from the company's accountant. They typically include the hourly rate plus a markup to allow for overhead and operating costs. The recovery rate can be from 25% to 200% above a worker's pay rate, depending on industry and process involved.

The survey results let people realize the scale and cost of current problems that the company is living with. It will help justify the change required by senior management and help people understand its purpose, and appreciate benefits it will bring when in place. Although the survey is not performed scientifically, and the comments from individuals are subjective, it is accumulated from a large group experiencing the same circumstances, and so it provides sufficiently robust evidence against which the future impact and benefits of the change can later be benchmarked.

Once people have contributed to the survey, the team must ensure that they are given feedback on what was found. One way is to put the survey results and Pareto chart on the Communication Board. Another is to advise people through a Toolbox Talk and show the Pareto chart during the feedback presentation.

Equipment breakdown, process failure, and production forced-outage costs are calculated using the total defect and failure (TDAF) costing method explained in *Industrial and Manufacturing Wellness* using the downloadable spreadsheets accompanying the book.

Pin-Mapping Problems

A second visual management method used to highlight the size and extent of workplace problems is to construct a pin map of problem locations. This requires using copies of the current process flow diagrams as maps. For each problem identified in the survey, place a colored pin, or colored mark, representing a category of problem at the point in the process the problem arose. Once complete the pin colors on the map clearly show the concentration and location of problems in the workplace.

Changing Marketplace

If the change is marketplace driven (i.e., the competition has changed or the customers' expectations have changed), it is necessary to provide the team with the marketing data supporting the reason for the change. The executive champion provides the team with the necessary information and explains its significance and implications to the team.

Step 2 Completion Checklist

Step 2 is complete when the following outcomes are complete:

- ☐ Current-state process maps drawn
- ☐ Procedures and work instructions identified
- ☐ Document filing system developed
- ☐ Data on extent and size of current problems collected
- ☐ Problems categorized
- ☐ Cost of problems calculated
- ☐ Visual display of current problems created
- ☐ Cost of problems to the business measured
- ☐ Survey feedback presented to all shifts
- ☐ Action Sheet tasks allocated
- ☐ Communication Board updated

Step 3: Identify Best Practices to Prevent the Problems

We now know what problems need to be addressed by the pilot change project. We know their approximate cost and the effect they have on the well-being of the business. Unless they are addressed, the company and its people will suffer unnecessary difficulties.

One choice for addressing the situation is to tackle each problem individually and solve it. It is possible to improve the organization that way if there are only a few problems. But if you have many problems, it will take a lot of time—time during which the industry, the competition, and the marketplace will continue to change. So even after fixing all the problems, new ones will rise to take their place because time, technology, and the competition marched on.

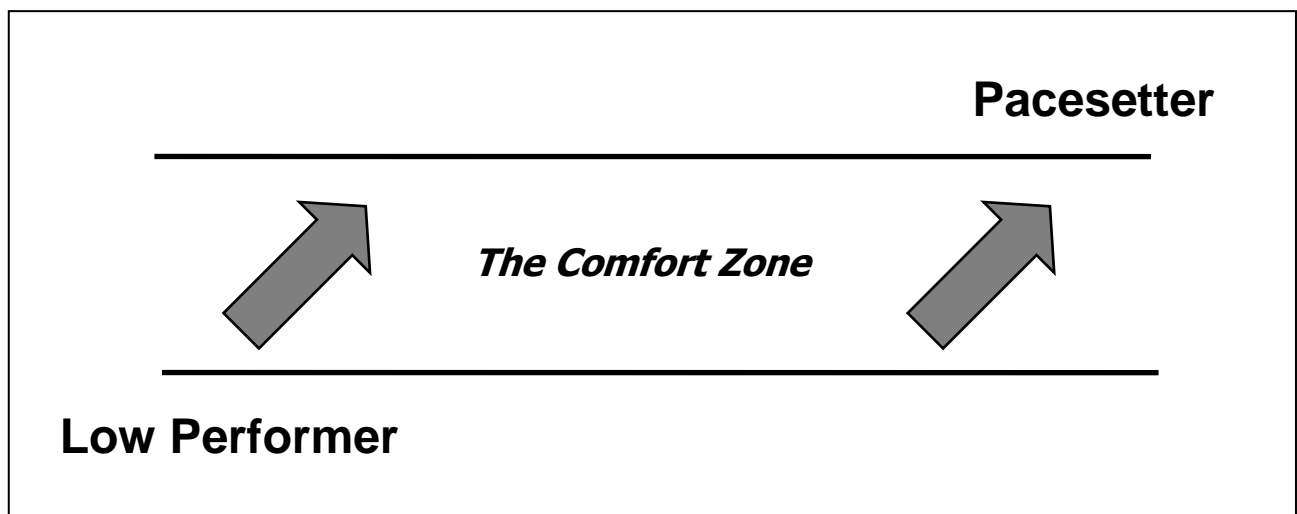
Fix the Problems or Change the Business Systems?

This is the opportune point to confirm how best to address the problems the organization is looking to overcome. We want to use the available time and resources to deliver the best return for the effort. This is achieved by taking the most direct and simplest route to the goal.

Do the Pareto charts indicate that there are only a few big problems, which, if solved, will fix the business? Or are there too many problems to be tackled at once? If there are only a few problems, then each can be solved individually. Once all of the problems are solved, the business will be on a better and sounder footing. If instead there are many problems, then the choice is to look for a new way to run the business that gets rid of them all at once—that means changing the way you do business and changing the systems of business.

It's true that organizations regress to safety and conservatism if not constantly challenged. The drawing in Figure 7 shows the remedy that world-class companies use to protect themselves from turning into low performers. They intentionally force themselves out of their comfort zone by setting higher targets and standards to reach. They challenge themselves to rise higher and then look for ways to get there.

Figure 7—The Path Taken by Higher-Performing Companies



This is the path your company has chosen to take—the same path that world-class organizations follow. The Change to Win Team now needs to identify the higher standards that the organization will work toward so that all its current worrisome problems are overcome.

Identifying New Standards

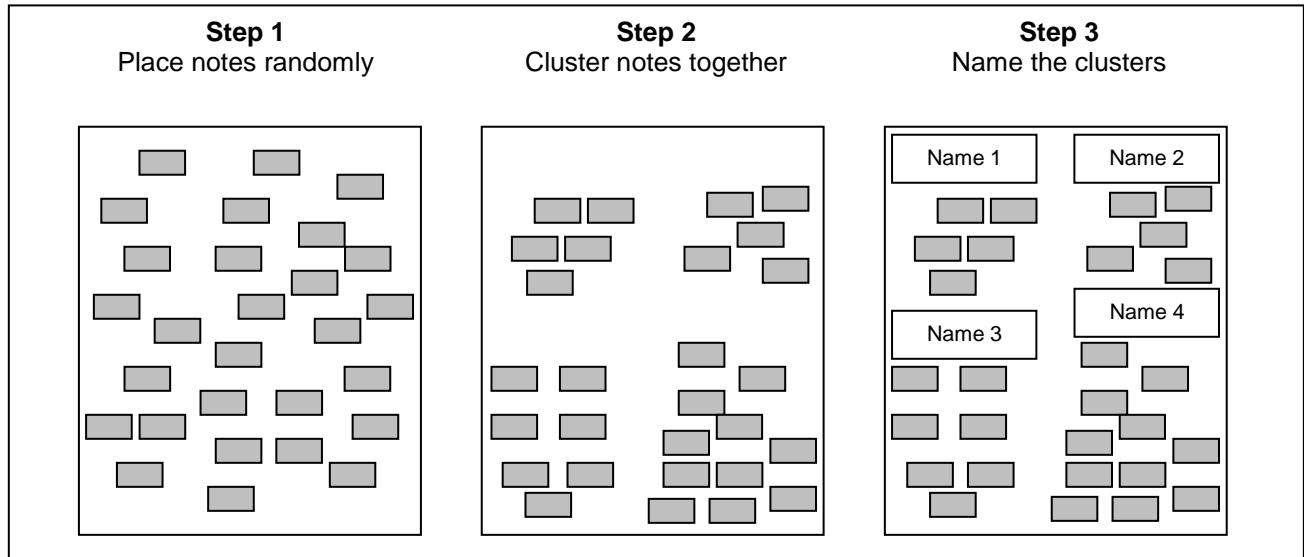
The Pareto charts indicated the range of problems in the business's processes that need to be solved. The organization's databases also identified problems affecting those business processes. The team is now required to collate the range of problems that exist and collect them in clusters of like problems that can be solved using the same solutions.

Using Affinity Diagrams

The method used to develop the clusters is known as an Affinity Diagram. Using the first-level Pareto charts, the team writes the name of each category from each Pareto chart on self-adhesive notepapers and puts each notepaper on a clear table or wall. The team works together to move the notepapers into clusters that share common attributes. Orphan problems maybe left over. That is normal. Where there is still disagreement over locating a note in a cluster, after open discussion among the team, the majority rules.

Finally, the team gives each cluster a distinctive yet representative name. For example, all equipment breakdowns could be grouped under "Equipment Breakdowns"; all scrapped production and wasted materials could be grouped together under "Waste Production"; accidents in which people are injured could be grouped under "Workplace Injuries," and so on. The diagram in Figure 8 explains the Affinity Diagram process.

Figure 8—Affinity Diagram Process



The Affinity Diagram process compiles many problems across the organization into a small number of business-wide problems. The team can now classify the higher standards it needs to look for to solve the problems by the names given to the clusters.

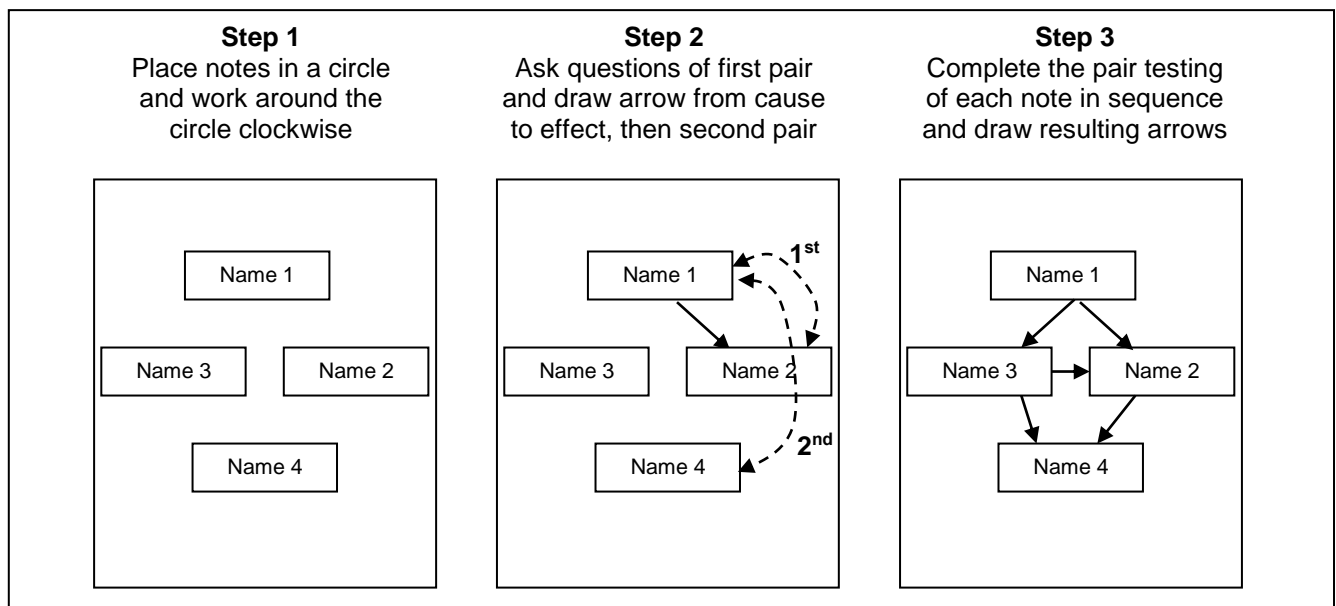
Using Interrelationship Digraphs

If a situation arises in which there are still too many issues to be addressed and it is not clear which ones are most important to tackle first, an Interrelationship Digraph is developed. The Interrelationship Digraph identifies the cause and effect between the clusters and shows whether one cluster causes another. By addressing the cause cluster, both it and the effect cluster are resolved in a single effort. The Interrelationship Digraph is developed using the cluster names given in the Affinity Diagram. The names are put in a circle and compared in pairs in a clockwise direction, with the following questions asked of each pair:

1. Does the first cluster cause/contribute the second cluster?
2. Does the second cluster cause/contribute the first cluster?
3. Is there no relationship?

The team seeks consensus on the answer. If there is no resolution, then majority rule applies. When it is found that a cluster causes another, an arrow is drawn from the cause cluster to the effect cluster. An arrow can only go one way. For example, “Equipment Breakdowns” cause “Workplace Injuries” and “Waste Production.” The pair testing is done for each note in the circle until all cause–effect relationships have been established.

Figure 9—Interrelationship Digraph Process Steps



The next step is to count how many arrows come into each card and how many arrows go out from each card and put the count in a table, as in the example in Table 12. To check that it has been done correctly, make sure that the number of arrows in is equal to the number out.

Table 12—Interrelationship Digraph Check Count

No.	Cluster Description	Arrows In	Arrows Out
1	Cluster 1 name	0	2
2	Cluster 2 name	2	1
3	Cluster 3 name	1	2
4	Cluster 4 name	2	0
	Total	5	5

The cards with the most arrows out are the drivers. In the table above, Cluster 1 and Cluster 3 are the drivers and should be addressed first by the Change to Win Team.

Identify the Best Practices

With the key drivers of problems in the organization known, we can start to look for solutions. The Low Performer to Pacesetter advancement model (see Figure 7) adopted in the Change to Win program requires organizations to adopt new and higher standards that, when reached, will deliver the goals they want. The team now needs to identify the new standards, the Pacesetter standards, which the operation will put into place.

These standards can be found by researching industry knowledge sources. Such sources include your own company information databases and libraries, benchmarking databases, industry forums and societies, published books on the required best practices, gurus in the field of interest, consultants in the required expertise, and so on. Using the name given to the key clusters, start the research by putting the names into an Internet browser and investigating the search engine results. It might be necessary to search using alternative words that are similar in meaning to the name of a cluster. Other places to search for reference material include national and state public libraries, specialist libraries, industry roundtables, specialist websites, and providers of suitable products.

The purpose of the search is to develop a list of sources from which to learn of the higher standards needed by your organization that will solve its problems. As the search progresses, more and more sources of information on potential new standards is collected. The Chang to Win Team short-lists possible sources to the three that will be investigated in greater detail, unless it is clear that one source is the best, in which case that source becomes the standard to work toward.

Task—Team: Appoint two people who are in the best position to conduct the research and list suitable standards of best practice that the team can review and shortlist. Consider this a learning opportunity and assign a “helper” to each person appointed to assist with the investigation.

Select the New Standard and Its Authority

With a short list developed, research and investigate each potential source for suitability to use in the operation. This may require combinations of solutions to address problems the organization wants solved.

Once the research is conducted, it is collected and presented to the team to review, discuss, and make a decision on the single source, or combined sources, to use. If people on the team have concerns or questions, then further investigation can be undertaken to address them. The important criterion for selection of the standard is that it will truly address the problem the organization wants to solve. To help select the source, and to ensure that it will address the organization's needs, a criteria table like the one in Table 13 is developed and then completed by the team.

Table 13—Best Practice Standards Source Selection Criteria Table

No.	Selection Criteria (What the standard must provide, what problems it must solve)	Importance to Fix Problem 1—Low 3—Medium 5—High	Ease to Implement 1—Low 2—Medium 3—High	Benefit to Company 1—Low 3—Medium 5—High	Total Importance x Ease x Benefit

Gap Analysis—Check New Standards Solve the Problems

Now that we know what the new Pacesetter standards are, it is necessary to confirm that they will solve the problems affecting the company. The simplest way is to use the team to gauge the effectiveness of the standards in solving the problems. Because the team is composed of people from throughout the business, it can take a multifaceted view of the new standards usefulness to the organization. If the team has confidence in the new standards, then the standards are highly likely to be successful.

The team must be confident that the new standards can deliver the necessary changes. The best practices to be introduced to meet the new standard can be compared with the current practices and rated for their ability to solve current problems. A rating table, like the one in Table 14, is developed from information collected during the prior analysis and completed by the team.

Table 14—Best Practice Gap Analysis Table

No.	Current Problem (from Affinity Diagram)	Problem Symptoms (from database or survey analysis)	Best Practice to Use (from source/authority)	Solution Match L/M/H	Comment
1	Equipment Breakdowns	Bearing failures	Lube management program	H	New best practice is clearly an improvement
		Oil contamination		M	
		Late customer deliveries		M	
		High maintenance overtime		H	
2	Cluster 2 name				
3	Cluster 3 name				

Alternatively, the team develops and completes the check table in Table 15 to grade the suitability of the standard to address the core problems identified by the Affinity Diagram process in Step 3.

Table 15—Best Practice Selection Review

No.	Test Criteria (The problems the standard must solve.)	Ability to Fix Problem 1—Low 3—Medium 5—High	Cost to Implement 1—High 2—Medium 3—Low	Benefit to Company 1—Low 3—Medium 5—High	Total Ability x Cost x Benefit

If the fit is poor between the proposed standard and the problems it must fix, the team repeats Step 3 to find a more suitable standard or group of standards. Having made the first attempt, the team now better understands the requirements and will be more certain of success in the second review.

Purchase the Standards and Sources of Best Practice

The team leader arranges for the agreed-upon standards and/or expert sources to be purchased and made available to the team.

With the source for the standard selected and purchased, it now becomes the authority that the organization will use to set its own standards. The authority contains details on the level of excellence that the organization wants to achieve, which, when achieved, will do the following:

- Prevent the current problems it now suffers
- Allow it to become a pacesetter in its industry
- Introduce new innovations to distinguish it from competitors

How the authority will be applied and used in the company is the next task that the team will decide and develop.

Step 3 Completion Checklist

Step 3 is complete when the following outcomes are complete:

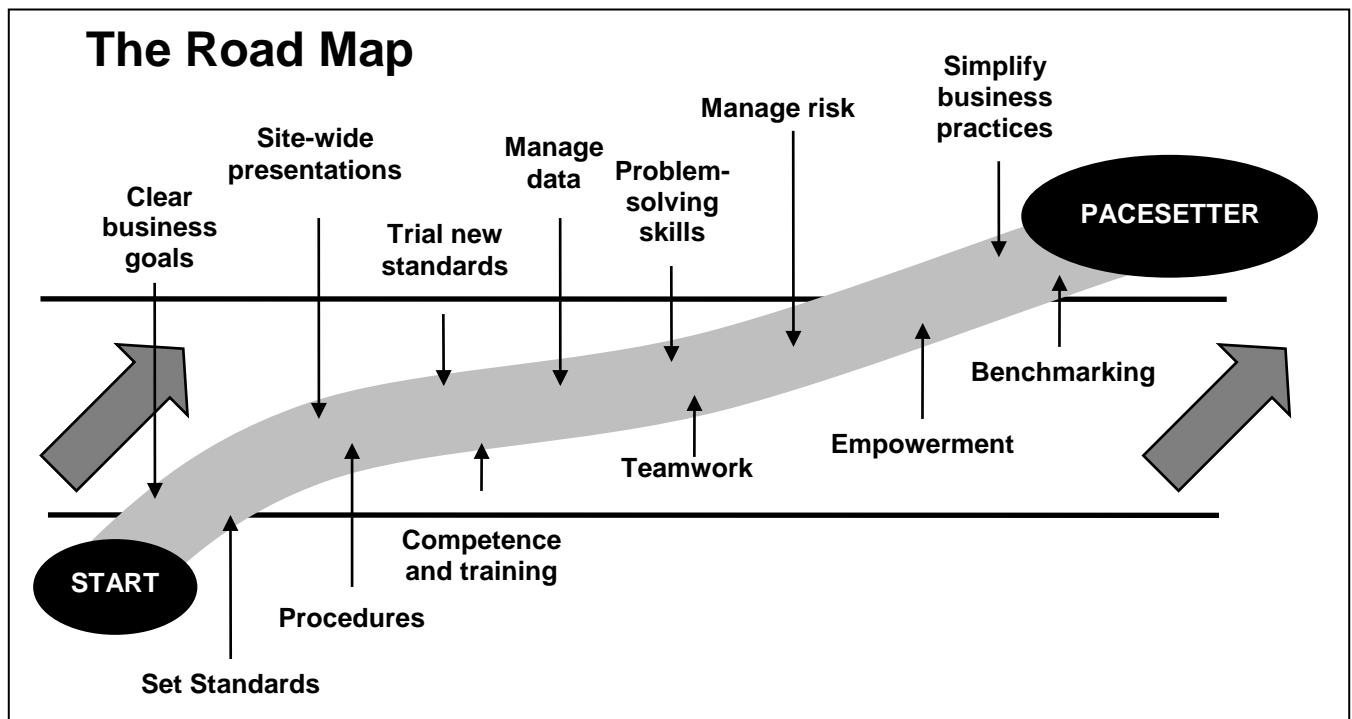
- ☐ Decided to change the business systems or fix problems
- ☐ Problems clustered by attributes
- ☐ Key problem clusters identified
- ☐ List of suitable standards finalized
- ☐ Source/authority for the standards selected
- ☐ Best Practice Gap Analysis confirmed suitability
- ☐ Standards purchased
- ☐ Action Sheet tasks allocated
- ☐ Communication Board updated

Step 4: Develop the Future State with Best Practice Standards

The future state is how the operation will look and function when the problem that the team is working on is solved by the pilot program. Getting all the benefits from using the new standards throughout the company is the vision for the future of the organization. The gap between today and tomorrow needs to be bridged, and the team's role is to chart the course to the vision—to provide a road map and plan for how to get there.

Develop the Road Map

Figure 10—Line of Sight Road Map



In this step of the Change to Win program, the team develops a plan to incorporate the new standards into how work will be done in the operation in future. It is a big-picture, blue-sky view of the future for the company, which will first be tested and proved in a pilot location. Once the team has developed the road map and written a brief description of each step and how it brings the organization nearer its goal, that information is presented to management to inform senior supporters of the team's progress and plans and to get their input and commitment to continue the program and make changes in the company. The diagram in Figure 10 is a visual representation of a road map to the future state for an organization.

The road map is the step-by-step plan to be followed to make the new standards the company's standard operating practices. Also known as "line of sight" goals, it is simply a bar chart of the tasks to be done and the sequence to be followed, so that at their completion, the new best practices are in use by the people in the organization.

Below is an example of a bar chart with headings. A cost estimate is required for each task to be done; at this stage, the estimates are based on teams combined experience. If it is necessary to be more certain in a cost estimate, then the most appropriate team member is tasked with developing the detailed estimate. The costs will be also be needed by the team for a cost benefit analysis of the Change to Win project.

Table 16—Improvement Project Plan and Budget

No.	Task Description	Who	Time	Cost Estimate	Period						
					Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7
1	Set clear business goals		2 days	\$1,500	X						
2	Explanation presentations across the operation		5 hours	\$1,000							
3	Itemize current costs/losses		2 weeks	\$2,500	X						
4	Investigate and set new standards		2 weeks	\$5,000	X	X					
5	Develop plan for pilot		2 days	\$1,500	X						
6	Draft new procedures, work instructions, etc.		12 weeks	\$20,000		X	X		X	X	X
7	Purchase special tools and equipment		2 weeks	\$5,000		X					
8	Conduct pilot		1 month	\$10,000			X				
9	Build competence with in-house training		6 weeks	\$20,000				X	X	X	

Task—Team: Develop the road map, explain the steps in it, and develop a bar chart that will be used by the operation to guide it to the future state, such that its new standards and practices will deliver Pacesetter performance.

Key Performance Indicators

If there is confidence that the new standards will solve the problems they are expected to, then there will be clear evidence that improvements have resulted by their use. The amount of improvement needs to be measured and trended to confirm that the effort to change standards was worthwhile. This requires the use of one or more Key Performance Indicators (KPI) that the team can calculate and then monitor to see what impact the improvement in standards have on the relevant KPI measures.

Tip: KPIs should reflect what happens in the workplace as a result of the changes. They may differ from the corporate KPIs set by management to monitor business performance.

The improvement can be expressed in financial gains, which is the universal language of business. Management will be greatly interested in the financial estimates. The financial impacts are best expressed as dollar savings. For example, some typical areas where savings can be had are as follows:

- Material savings
- Energy savings
- Time savings
- Quality savings

There can be large, unexpected financial gains from the Change to Win project. Major extra financial benefits will result if more of the market can be supplied or there is increased productivity.

It is necessary to select KPIs that are appropriate to the business. A type of KPI that is often suitable and easy to trend takes the following form:

$$\text{Unit Cost} = \frac{\text{Cost to Produce}}{\text{No. of Units}}$$

The financial gains can be calculated by using a cost/benefit analysis, as explained below, and shown at the management presentation.

Financial KPIs are not the only suitable measures. Predictive KPIs, (e.g., number of improved procedures in use, number of people trained in the new procedures, etc.) also indicate the success of the improvement initiative and the better future it will bring to the company.

Cost–Benefit Analysis

Cost–Benefit Analysis is a simple technique that is widely used for deciding the value of a particular action to improve business or process performance. As the name suggests, the technique counts the value of the benefits of a course of action and subtracts the costs associated with it. Costs are either one-off, or they may be ongoing. Benefits are usually received over some time period. The effect of time in the analysis is handled by calculating a payback period. This is the time it takes for the benefits of a change to repay its costs. Many companies look for payback over a specified period of time—three years is common.

In its simple form, cost–benefit analysis is carried out using only financial costs and financial benefits. For example, a simple cost–benefit analysis of a production improvement

would measure the total cost of the improvement and subtract this from the expected benefit of the improvement.

These are things to consider when doing a cost benefit analysis for a Change to Win project:

Costs:

- Purchase of equipment
- Labor to develop the standards, including indirect costs, such as senior management time
- Cost of training

Benefits:

- Reduced production time lost
- Reduced maintenance and costs
- Reduced scrap and waste
- Reduced-quality cost and rework
- More throughput and sales

In addition to the tangible financial benefits of the team's proposals, "intangible" benefits—that is, benefits that cannot be measured, but are still important for the business—also should be identified. Examples on intangible benefits are the following:

- Safety
- Quality

- Morale
- On-time delivery
- Predictable production performance
- Customer satisfaction

The estimated costs to use in the cost–benefit analysis are those identified in the “Line of Sight Road Map” completed previously. The benefits will be the savings expected to be gained by implementing the Change to Win project. These can be estimated from the reduced costs of the problems calculated in Step 2. Exactly how much of the costs caused by the problems will eventually be recovered by the Change to Win project will only be known after a year or two of use. To help identify the financial sensitivity of the improvement project, do cost–benefit calculations assuming a 25%, 50%, and 75% reduction in the identified problem costs and work out the cost–benefit in each case.

This approach of using a range of possible outcomes is known as a sensitivity analysis, or what-if analysis, and provides a better appreciation of the variability in monetary outcomes and a better understanding of the payback for the effort spent installing the new standards and practices.

Example: A manufacturing company has \$500,000 a year in breakdown repair costs (not the same as preventive maintenance costs, which are budgeted work). It wants to introduce a Change to Win project to reduce breakdowns. The team expects to save 50% of annual breakdown costs. Installing the necessary programs, doing the training, and buying the equipment will cost \$150,000 in the first year. The cost–benefit analysis is shown below:

Costs: Improvement program = \$150,000

Benefits: 50% reduction in breakdowns annually = \$250,000

Cost/Benefit (Payback) = \$150,000 / \$250,000 = approximately 8 months

If savings were only 25%, the payback period would be about 14 months. If they were 75%, the payback period would be around 5 months. If the company's payback period is 3 years, then this project should go ahead immediately.

Task—Team Leader: Now that there is a clear picture of what to focus on and measures for improvement are set, it is important to communicate this to the areas affected. At a minimum, a clear project description and target of improvement should be posted on the Communication Board.

Identify the Procedures to Update

Ultimately, the new standards have to become what people do. This is done by writing the new standards into departmental procedures, work processes, and employee work instructions. One of the important outputs from the team will be updated procedures with the new standards embedded within them. First it is necessary to identify what procedures and work instructions need to be changed for use in the pilot.

Appoint team members to use the current-state process maps from Step 2 to identify the process steps that will be impacted by the new standards and make a list of them all. The easiest

way is to list the processes affected, and then under each one write its process steps, and below each process step list the procedures and work instructions that currently exist for that step. If there are no documented procedures and/or work instructions for the steps, then the team will need to write them as part of the Change to Win program.

Tip: If you have a quality management group or manager, he or she can provide you with copies of the current procedures and work instructions.

In this step, the new and revised procedures will be drafted in special formula that gives users the maximum chance of doing them well, every time, always with outstanding quality.

Draft ACE 3T Procedures

ACE stands for Accuracy-Controlled Enterprise in the case of a business or Accuracy-Controlled Expert for an employee. It is the recognition given to companies that use accuracy-controlled procedures throughout their business and to people who do their work by using the 3Ts of failure prevention: Target, Tolerance, Test. ACE procedures are specially formatted using a particular layout and method to help people do excellent work. They use the 3Ts to eliminate defects and prevent from problems starting.

Once the total number of procedures and work instructions is known, the rewriting into ACE 3T format is shared among the team members whose duties include drafting procedures. Whenever possible, cut and paste existing procedures and work instructions into a new document laid out in the ACE 3T format shown below.

A standard operating procedure will typically contain all the instructions to do a complete job from start to finish. The instructions are broken down into separate tasks. Each task is an action to be performed. When each task is completed properly, in the right order, on time, the job is done successfully. It is the duty of the SOP writer to deliver success to all users every time the job is done. Your aim with a SOP is to get the job done right first time. You need to get ideas and concepts clearly into people's brains fast. An ACE 3T SOP layout style and content is shown in Figure 11; an example for a flange is shown in the *Industrial and Manufacturing Wellness* book.

Figure 11—Accuracy-Controlled Enterprise 3T Procedure Layout

Task Step No.	Task Step By	Task Step Name	Tools & Equip	Full Description of Task	Test for Correctness	Tolerance Range			Record Actual Result	Action If Out of Tolerance	Sign-off After Complete
		(3–4 words)		(Include all tables, diagrams and pictures here)		Good	Better	Best			

Embedding the New Standards into Procedures

The ACE 3T procedure format uses the “Best” column to identify the target result wanted in using the new standards and practices. In this column, write the ideal result that the task can deliver. This is the best outcome that the authority says is possible to achieve. It will be necessary to research the authority in detail, and even to look at other information sources, to

make clear what best is. In the “Good” column, write the minimum requirements permitted for the task. For the “Better” column, write the outcome that best represents a clear improvement from the good level on the way to being best.

In the “Test for Correctness” column write the method used to check the task is done right. Record the test results in the “Record Actual Results” column. Once the results are available, the procedure user checks their work quality by comparing it against the good and best requirements. The task is only successfully completed when the good requirement is met. It is completed expertly only when the best result is met. Anything below good is not good enough. Advise procedure users in the “Action If Out of Tolerance” column what to do if the task is producing less than good results.

The beauty of the ACE 3T failure prevention method is its powerful influence for increasing the likelihood of good outcomes. It is a proactive control measure that drastically reduces defect creation and the future failures they cause. The 3Ts—Target, Tolerance, Test—provide statistical control over a task by setting clear performance requirements, installing control limits, and specifying measures to track performance. Developing procedures that ensure accuracy by embedding targets, tolerance bands, and tests in tasks is a highly secure way to meet specifications. They remove uncertainty of outcome. With sound targets and proof testing used in business processes, the organization moves from being uncontrolled—or, at best, quality conscious if a quality management system is used—to being an accuracy-controlled enterprise, an ACE. Without any additional costs or demands on the organization, except including the 3Ts in its standard operating procedures and, where needed, providing appropriate test devices and training in their use, a business can be well protected against all defects and failures.

With 3T defect elimination and failure prevention methods overlaid on standard operating practices, the possibility of problems developing and getting deep into a business is greatly reduced. The business systems shrink in complexity because each person is now clearly responsible for product quality and conformity. Now the quality checks are not needed at the completion of a process step because the quality is built into the actions and behaviors of every process step. Accuracy and quality are inherent in the ACE 3T system of work and become the only acceptable way to do a job.

The first author of a procedure ought to be the current expert on the job. The person who does a job at present should be the SOP or work instruction author. The team members writing ACE 3T procedures will need to observe people doing the work to check that a procedure is thorough and complete and to identify the appropriate proof test for each task. Where the present job incumbent does not yet deliver the best results, ask his or her to help with the first draft of the procedure and then do a second draft with the person who does the best job so that he or she can review and refine the first draft. Similarly, if multiple shifts do the same job, each shift must input into the procedure and review it if we are to get their support. This will save face for all concerned while getting the best ideas from all people. If a procedure writer can write well, then give that person the time to draft the SOP using the ACE 3T layout. If the person cannot write well, then select a suitable writer and have him or her interview the people who do the job. It may even be necessary to get an expert from outside of the organization to write the procedures.

As the procedural task steps are written, include the best practice requirements from the authority on the subject. You want to bring into the business the best practices currently available to solve its problems, and when necessary, the best practices are to be brought into the business

from outside. Draw the process map, or flow diagram, of the procedure and put the drawing at the start of the document, followed by the ACE 3T formatted procedure description.

Another person with the relevant experience then checks the draft SOP to confirm and endorse the documented steps. If the SOP is critical to health and safety or to the success of a business initiative, it should be thoroughly reviewed and analyzed by resident and invited experts. This may include having meetings at which the SOP is analyzed in great detail to establish the risk and consequences of it being done incorrectly. If the consequence of an error is catastrophic, it is necessary to include control points and third-party checks in the procedure to keep full command of the job. The process map for a procedure will be highly valuable when risk analysis is required.

If the job has not been documented before, then a SOP will need to be written for it. If the job is similar to existing jobs with SOPs, then the new one can be based on them and incorporate changes to suit the requirements of the job tasks. If there are people experienced in the work being documented, they should either write the draft SOP or be interviewed for their suggestions. If necessary, bring in help from outside the organization. When possible, existing experience should be used to refine the draft ACE 3T SOP. This will improve the chance that it will work well from the start and help to get buy-in from the people now doing the job.

Management Presentation

Reasons for a Presentation

Before drafting the ACE 3T procedures, the team should make a presentation to the management team. The reasons for the presentation are as follows:

- Explain to management the real problems in the operation
- Describe how the team proposes to address the problems
- Present the road map and standards that are required
- List the actions needed for business process improvement
- Justify why money or resources should be invested in proposed actions
- Teach people presentation skills
- Put the team's thoughts into a logical format so others outside the Change to Win process can understand what is happening
- Demonstrate the effectiveness of teamwork and the Change to Win process to management

Good Presentation Content

Teams can get nervous about making a presentation to management. That is normal, and in fact useful, because they prepare more diligently. It is not necessary to make a long and detailed presentation to management in order to get the message across and impress. Managers are busy people and have many issues on their mind. They are easily distracted and prefer an overview

explanation instead of the details. They can always ask questions if they need more information. So keep to the important issues and explain them simply. The key to an effective presentation is to make it as short as possible but ensure that it covers all of the important issues.

Presentation tactics:

- Know your audience's needs: If the audience is not familiar with the subject that you are presenting, then you must provide sufficient explanation so that they can understand the presentation. On the other hand, if the audience is very knowledgeable on the subject, then you don't need unnecessary detail.
- Use a logical flow—start at the beginning and build your argument logically. The best way for the team to achieve this is to use the logic and flow of the workbook process. An easy way is to tell the story of what the team did and what they found out in the process.
- Use pictures, graphs, and charts where possible—the adage “a picture tells a thousand words” is true and saves a lot of time writing slides for the presentation. Simply talk to the image, indicating and explaining what information it contains and its importance to the business and its people.
- Have each member of the team take on a part of the presentation—this sharing demonstrates team cohesion and values their input. It also gives everyone the opportunity to learn presentation skills in a nonthreatening way (if the presentation is shared, each team member is talking for only two or three minutes at most).

- Do the preparations properly and know what you will say. You may be nervous, but with a logical presentation, and because you know what you are talking about, it will come across well. If you want to practice before the formal presentation, a good rule of thumb is to go through your presentation six times. This gets it into your subconscious and makes you very comfortable with the content.

Typical Elements of a Team Presentation

- Welcome, meeting purpose, and introduction to project
- Show team photo, team name, and members
- Change to Win Team boundaries
 - Team objectives
 - Current-state summary
 - a. Lost time
 - b. Waste
 - c. Production rate
 - d. Quality
 - e. Others
 - Survey summary
 - a. Pareto charts
 - b. Analysis of costs
 - c. Problem prioritization

- Standards review summary
 - Proposed solutions list
 - a. Cost–benefit analysis
 - b. Resource requirements summary
 - c. Implementation plan
- Road map
 - a. Future state
 - b. Procedures to be updated
- Lessons learned to date
- Where to next?

Remember to also need to make a brief presentation to all other shifts and departments affected.

Step 4 Completion Checklist

Step 4 is complete when the following outcomes are complete:

- ☐ Confirmed that standards will address the problems
- ☐ Key Performance Indicators selected
- ☐ Road map developed
- ☐ Brief script of each step on road map
- ☐ procedures to be updated identified
- ☐ Management presentation done and approval received
- ☐ All procedures drafted to ACE 3T format
- ☐ Risk analysis conducted on key procedures
- ☐ All procedures reviewed and refined
- ☐ Action Sheet tasks allocated
- ☐ Communication Board updated

Step 5: Make Best Practices the Standard Operating Procedures in the Workplace

During the remainder of the project, the team tests the new ACE 3T procedures, makes necessary changes, and proves that they consistently deliver better results. This is a stage of experimentation, discovery, and learning. Careful planning, tight control, and vigilant monitoring are required when testing in order to be certain that the results are truly caused by the ACE 3T procedures.

At the end of this step, a final presentation is given to management during which the results of the test, and the learning from it and the project, are presented.

Implementation Plan

About five to six weeks remain in the project timetable. During the time remaining, the team must put the procedures into use, measure their effect on performance, and refine them and retest if necessary. To be effective in the time remaining, an implementation plan needs to be developed, including time to review progress and factor in learning and changes. As with previous project plans, a bar chart is the preferred planning tool.

Time is the most limited resource. The assumption is often made that following the decision to implement the procedures, there is time to do it. However, many of the necessary actions can fall to a few team members who are already busy, unless a workable plan is agreed by all. The team needs to identify all of the necessary manpower resources, the required parts, materials, and equipment not already close at hand, and then make sure that they are available for the project pilot. Any special training required to implement the new procedures must be

identified, and this may mean bringing in additional resources to do the training so the project can be completed.

The chart in Figure 12 shows how to layout the tasks and duties in the implantation phase of the project so they can be monitored and managed. By representing the implementation in this format, the team can check that the workflow is logical, ensure that labor resources are not overextended, and follow progress against plan during the remainder of the project.

Figure 12—Example of a Improvement Project Implementation Plan

No.	Task Description	By Who	Needed Resources	Time Period					
				Week 8	Week 9	Week 10	Week 11	Week 12	Week 13
1	Review risks and problems in implementation								
2	Explain procedures and trials to all shifts								
3	Specialist training in new test equipment								
4	Explain new procedures, practice, and apply								
5	Review implementation and make adjustments								
6	Refine procedure and update documents								
	Management presentation								

As part of preparing the plan, we need to conduct a risk analysis of where problems may lie when doing the implementation and ask the following questions:

- When can we organize the right people to do the work?
- Do we have the test equipment required?
- Do we need additional training on specific equipment and methods?
- Do we have permission from management to access the plant?
- What is the sequence to apply to the plan?
- Have we informed all the right people?

Keep people informed: Review key indicators on an agreed frequency, update notice boards, include comments in briefings, even consider having frontline people do their own performance tracking—it is a very powerful way of maintaining the gains and developing ownership.

Training

The team needs to consider whether there is a need to train employees on changes to processes or procedures, especially if new test equipment is being used. Training should be simple and straightforward, done on the job and face to face if at all possible. A short training period of 15 to 30 minutes should be used to cover most issues involved with implementing the new procedures, especially since ACE 3T procedures have a clear and simple layout to follow. Also consider the following:

- Plans to retrain existing employees
- Competency check lists for employees being trained in the future
- Training records to ensure that everyone has been through the necessary training

If training is required for special equipment, then organize the training to be done by the equipment/service provider and ensure that people pass a minimum level of competency so they are comfortable using the equipment when doing the new procedures. Remind people that they will get better at doing new tasks as they get more on-the-job practice.

Workplace Implementation

Once the plan is in place, double check that it is ready to go and fix a time, place, and people to start implementing it in the workplace. Put the plan on the Communication Board for all to see.

The team must track progress against the plan and be prepared to help out if something unexpected occurs. Extra resources, more on-the-job training, or rescheduling may be required. This will show up when reviewing the implementation plan during the remaining meetings. Color the bars on the bar chart for a graphic way to track progress and communicate progress to others.

It is also necessary to track the project costs to compare them against the estimate. If costs are going to considerably exceed the original cost, then advise management and seek their approval. Tracking costs is important if the project expenditure is to be capitalized and identified

in the accounts as assets. In this case, the Accounting Department will require a detailed account of all of the expenses.

Communicate the Changes

A most important factor in any change management process is to make sure all relevant people are aware of what the team is up to. The reason for doing this is that by discussing the proposed changes, there may be valuable feedback that will prevent problems during the trials. However, the most important reason is to make sure that everyone knows why the changes are necessary and what the benefits will be to them, their team, and the business. The honest truth is that if everyone agrees with the changes, then there is a far better chance that they will be successful.

What to do:

- Make a list of all the people who need to be aware of the work to be carried out
- Determine what those people need know
- Work out how to communicate it to them using one of the methods below:
 - Face to face meeting
 - Toolbox meetings
 - Department meetings
 - Group presentations
 - Memos and notices
 - E-mails

- Schedule team members to inform those people
- Seek feedback from the people

Tracking Results

During Step 4, KPIs were established to monitor performance of the Change to Win project. It is important to make sure those measurements are collected and tracked. Be sure the right information is collected and displayed in a graph to show how the project performs. The team may need to consider the following:

- Do we need to change any of our measurement parameters?
- Who is responsible for updating the information?
- Is it possible to automate the data collection process?
- Who should see the information?
- Where should the information be displayed, and who should see it?

The other important issue to monitor is whether the predicted financial benefits are being achieved. As the actual costs and operational results become known, an actual cost–benefit can be calculated and compared to the cost–benefit analysis from Step 4. If the results are not what was originally predicted, either operational and/or financially, you will need review the original investigations and identify where they were misjudged. There are a number of possible reasons for a discrepancy:

- The new procedures put in place did not eliminate/reduce the root cause of the problem
- The real/most important root causes were not identified
- The new procedures were not the appropriate ones to fix the root cause of the problem

If there is time, the team can revisit their previous work on selecting procedures to solve the problems. If not, the team can develop recommendations for future work as part of continuing improvement.

Replicate Changes throughout the Business

The project has likely achieved some big improvements. These need to be extended to other parts of the business that will benefit from them, in addition to continuing the program of introducing ACE 3T procedures to other duties. The team should be able to

- Identify other parts of the business that may benefit by learning from the project.
- Identify other processes in the operation that would get value from using ACE 3T procedures
- List the names of the people who should be contacted
- Discuss how to communicate the project outcomes and stimulate their interest
- Consider whether it is useful to promote the project on the company intranet

The Project Summary Report

A record of the project achievements is made in a Project Summary Report. The key issues and factors are included in the final management presentation, and a copy is put on the Communication Board. The project summary report is useful to management for justifying starting new project teams. The report should include the following:

- Project objective
- Team member names
- Project benefits
- Major achievements
- Before and after tables/charts
- Graphs of KPI measures
- Project status of the at end of 100 days
- Recommendations

Develop a communication plan to inform all stakeholders about the results of the project, including presentations to other shifts and departments affected by the business improvement.

Final Presentation

The last week includes a final presentation to management, at which the project benefits are outlined and achievements explained—or, if not achieved, then why not and what was learned.

There will be value and important information gained from the pilot, and it is communicated to management so they can appreciate what next needs to be done. The final presentation typically includes the following:

- Summary of the first presentation
- The implementation plan
- Project results
 - Actual improvements against expected
 - Implementation cost compared to actual
 - Project summary report key content
- Methods employed to make the changes permanent across the organization
- Learning from the project and ways to improve in future
- Recommendations to progress forward
 - What of the next cycle?
 - How far to extend the project?

Step 5 Completion Checklist

Step 5 is complete when the following outcomes are complete:

- ☐ Implementation plan developed
- ☐ Changes communicated to people
- ☐ Training conducted
- ☐ Results of new procedures captured and tracked
- ☐ Procedures update and retested as necessary
- ☐ Project summary report written
- ☐ Final management presentation given
- ☐ Action Sheet tasks allocated
- ☐ Communication Board updated