Continuous Performance Improvement: Additional CPIP Implementation Processes

Key Points

- Identifies implementation processes in addition to the Quality Management Plan-Do-Check-Act cycle, to be used in conjunction with five other companion Executive Insights examining the stages of CPIP.
- Details: the International Process Management Quality Journal (public domain); a benchmarking plan; executive communication regarding Quality Management culture and safety culture; and a process for dispute resolution.
- Provides document, flow charts, and charts with a clear guide to each process and a starting point for adaptation and implementation.

Introduction

This Executive Insight provides documentation of additional processes that have been found in historical applications to assist in the success of the CPIP effort.

This Executive Insight includes:

- PMI Quality Journal
- Benchmarking Plan
- Executive Communication regarding:
  - Quality Management Culture
  - Safety Culture
- Dispute Resolution Process

Additional Processes

These processes are to be used in conjunction with the Quality Management Plan-Do-Check-Act cycle detailed in five companion Executive Insights examining the four stages of CPIP.

PMI Quality Journal (Section 1) is a useful tool in documenting change management efforts and allows entire companies to see proposed changes in one document.

Benchmarking Plan (Section 2) provides the opportunity to cooperate with other organizations to develop improved approaches to completing successful processes. Four steps are provided: planning the

process, internal data collection and analysis, external data collection and analysis, and improvement of item performance.

Executive Communication (Section 3) illustrates two examples of important future company foci, Quality Management Culture and Safety Culture.

Dispute Resolution Process (Section 4) addresses disputes that may occur during implementation of projects. This process was developed by the author's participation in dispute resolution with the Construction Industry Institute. It is an effective tool for resolving issues that have a negative impact on project performance and company-contractor relations and helps in mitigating both internal and external disputes.

Conclusion

The four additional Continuous Performance Improvement Processes provide a starting point for organizations. These are broadly applicable and can be modified to reflect specific industry and company needs. Companion Executive Insights describe the Plan, Do, Check, and Act stages of Continuous Performance Improvement.

Section 1: PMI Quality Journal

The Quality Journal.

Process:

The Quality Journal is an adaptation of the Japanese discipline for problem solving which they call the QC Story. This discipline brings consistency to problem solving in executive suites, administrative areas, engineering laboratories, and production departments. It displays progress so that anyone can look at the problem-solving activities, understand the progress, and offer additional suggestions for improvement.

The Quality Journal displays a summary of activities. More detailed information on the problem, such as integrated flowcharts, histograms, Pareto diagrams, cause-and-effect diagrams, control charts, data collection forms, run charts, and scatter diagrams would be used in the actual work. Reduced copies or simpler versions are shown in The Quality Journal. The seven-step approach is described below.

1. **Clearly define the problem.** Factually state the extent of the problem and how it impacts the total system. Then construct an integrated flowchart to graphically display the process. A problem statement documents in detail what is known about the problem. It explains the reason for selecting the problem, the background of the problem, and what has been done to date. An integrated flowchart is a means to examine the process to see what can be done to simplify it—remove complexity, redundancies, and unnecessary actions. The problem-solving effort should be planned and scheduled, and time and costs should be estimated. Gantt charts are useful for this purpose. Pareto diagrams, histograms, or run charts can be used to display the effect of the problem.

2. **Observe the problem.** Examine the problem from several points of view; typically, different times, different places, different types, and different symptoms. Use data collection forms to gather specific details about the problem. Involve the workers in the data collection process.

3. The third step, **determine the main causes of the problem**, is divided into two parts; first, hypothesize possible causes of the problem, and second, test those hypotheses. A cause-and-effect diagram is a useful tool in this step. Possible causes are identified according to main categories. The causes (hypotheses) that seem to have the highest possibility of being main causes are identified. Information from the observation step, combined with expert knowledge of the process, is used to identify these main causes. New data is collected to test the theory of the main causes and prove their relevance.

4. **Take action that will eliminate the main causes.** Use data to evaluate several possible solutions to the problem. Take care to remove root causes and not the symptoms. Care should also be taken so that the solution does not have any detrimental side effects. Select a solution and carry it out.

5. **Check.** Data is collected to check the effectiveness of the action taken. Compare the situations before and after. If the results of the action are not what was desired, first determine if the action was implemented as planned. If the solution was implemented as planned, but the results are undesirable, it is necessary to test a different solution.

6. After the desired results are achieved, the solution is **standardized**. Develop a new standard and communicate it to everyone involved in the process. Provide training to ensure the standard is implemented. Devise a check system to observe compliance with the new standards.

7. **The conclusion.** Review the problem-solving procedure and identify what was learned. Note what worked well in the improvement process and what did not so others can learn for the future.

QUALITY JOURNAL

SUBJECT:

AUTHOR:

DATE:

Process Flowchart Before Improvement

1. Define the Problem a) Statement

b) Data Display

2. Observe the Problem

3. Analyze the Causes a) Setting the Hypothesis

b) Testing the Hypothesis

4. Act On the Causes

5. Check the Results

6. Standardize the Changes

7. Draw Conclusions

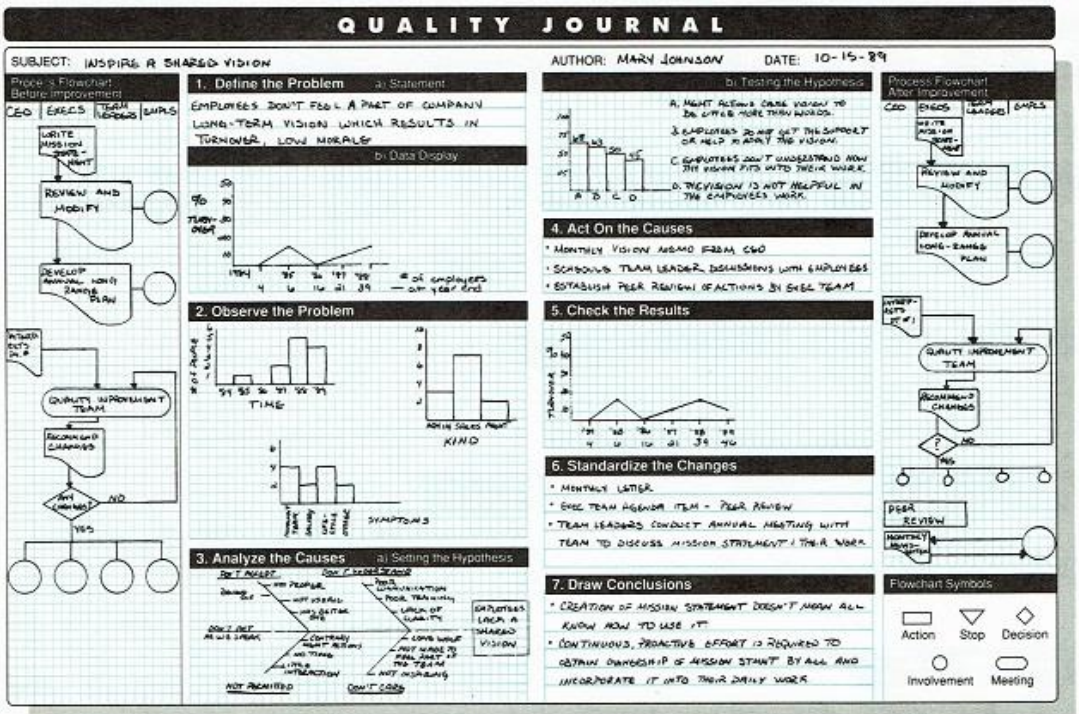
Process Flowchart After Improvement

Flowchart Symbols

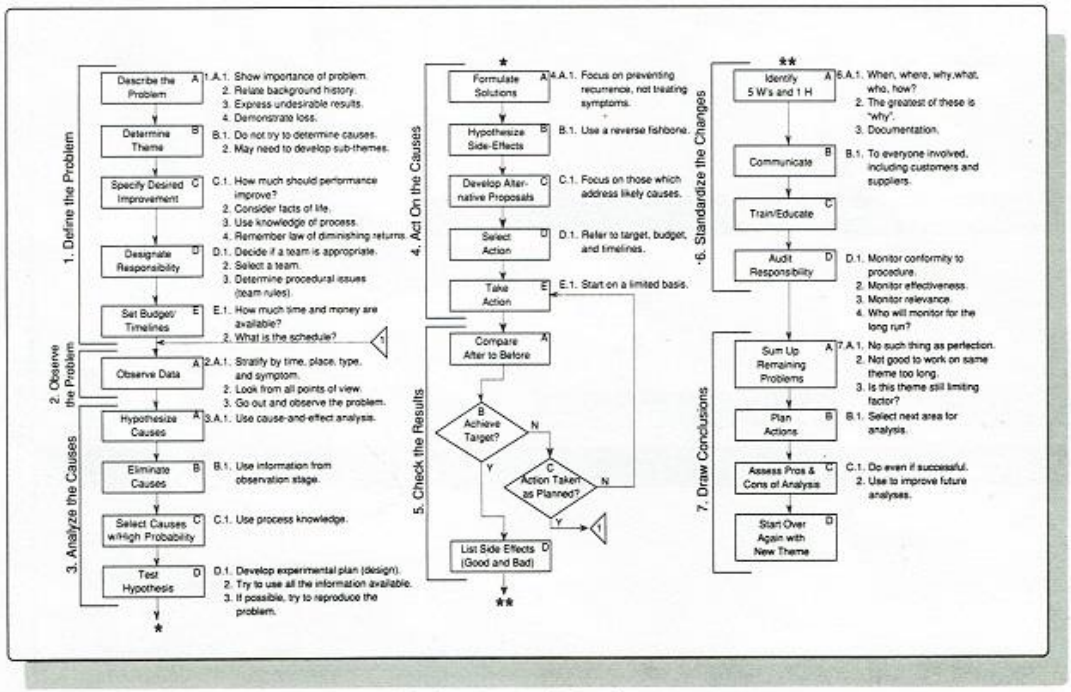
Action Stop Decision

Involvement Meeting

Process Management International



Quality Journal Example.



Quality Journal Flowchart.

Section 2: Benchmarking Plan

PHASE I PLANNING THE PROCESS

- Appoint Benchmarking Coordinator
- Identify what to benchmark
- Develop the internal data collection plan
- Obtain management concurrence

PHASE II INTERNAL DATA COLLECTION AND ANALYSIS

- Form internal benchmarking teams
- Implement internal data collection plan
- Conduct interviews and surveys
- Collect and analyze internal information
- Decide on specific items to be benchmarked

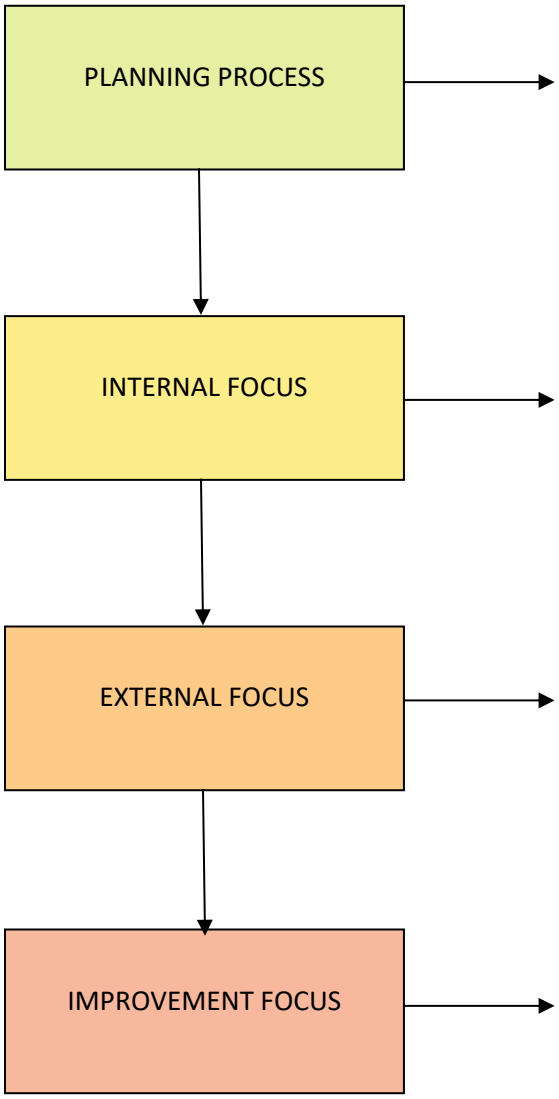
PHASE III EXTERNAL DATA COLLECTION AND ANALYSIS

- Develop external data collection plan
- Conduct external site visits (interviews, surveys)
- Collect and analyze external information

PHASE IV IMPROVEMENT OF ITEM PERFORMANCE

- Compare internal and external data for each item benchmarked
- Select improvement to be implemented
- Initiate and integrate a management of change process (see figure on page 8)

BENCHMARKING PROCESS



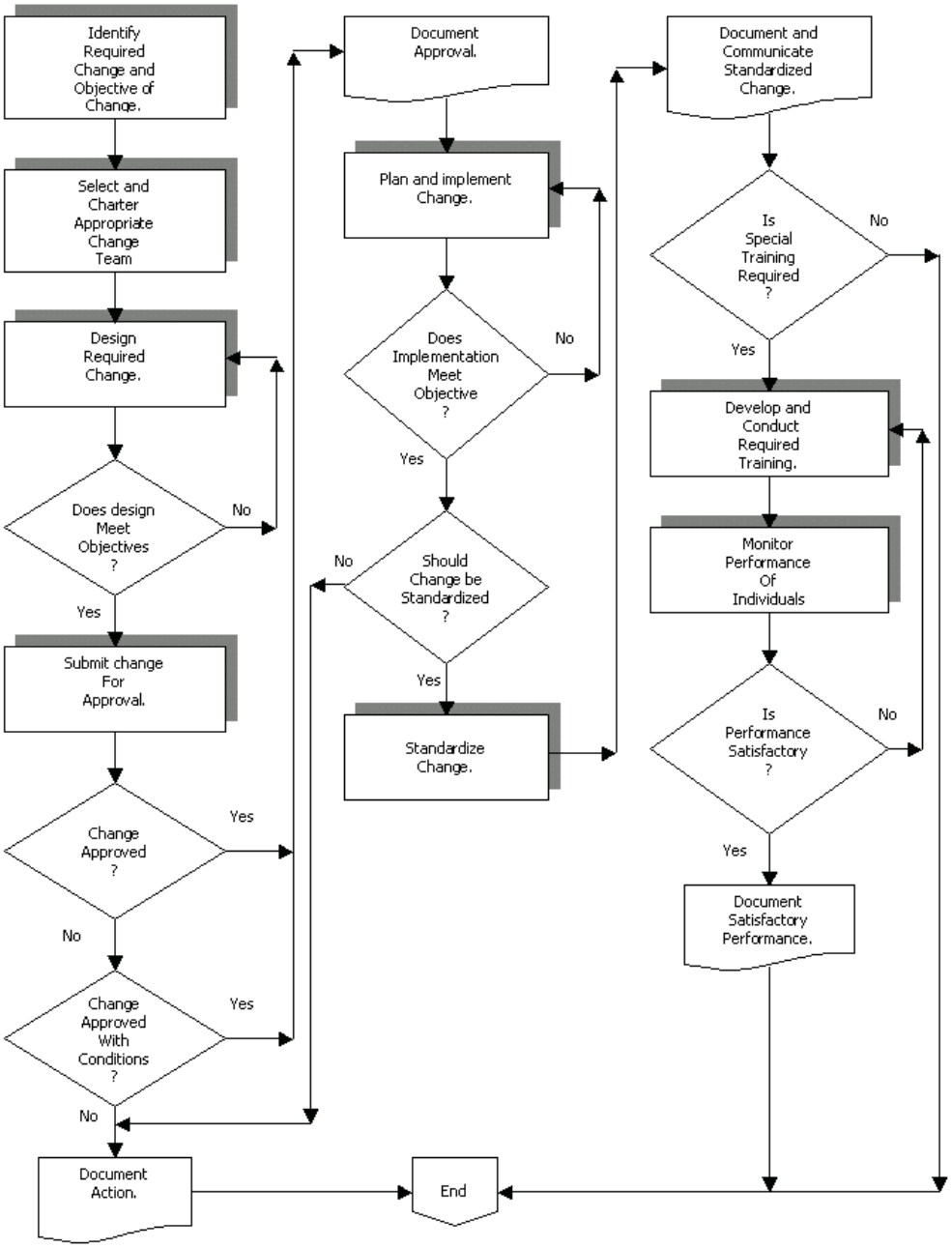
- Select benchmark focus
  - Performance statistics
  - Business/work processes
  - Other (e.g.: organization, structure, etc.)
  - Assign benchmarking responsibility

- Develop internal data collection plan (who, what, where)
- Collect internal data to be benchmarked
- Document internal data

- Develop external data collection plan (who, what, where)
- Collect external data to be benchmarked
- Document external data

- Identify areas for improvement from comparison of internal and external data
- Utilize management of change process to plan and implement improvements
- Document improvements and integrate into organization
- Monitor to assure improvement

MANAGEMENT OF CHANGE SYSTEM



Section 3: Executive Communication

QUALITY MANAGEMENT CULTURE

When people in an organization believe that quality is important, they behave with care and concern about how they do their jobs, how they impact their colleagues, how they impact their customers, and how they impact their public.

What is A Quality Culture? People are persuaded of quality as a value only when organizations and their leaders consistently demonstrate that value. When it comes to quality, there must be "constancy of purpose." The achievement of this goal will determine the ultimate success or failure of the organization. When the employees of a company identify with quality, it is contagious—employees interact with each other and reinforce this value. Sharing it creates a sense of purpose and influences how employees move forward on shared missions. The ongoing practice of caring about quality strengthens the overall organization's belief in its value and acts as a unifying force. When the value is shared extensively on every level of the organization and a widespread level of commitment to overall quality performance is expected, then everyone is doing what is right when no one is looking. Then we can say: a "quality culture" thrives.

What Is the Role of Leadership? Strong leaders create organizations that are caring and responsible. To do so, they lead by example, convey a sense of ethical responsibility, and practice good process, always. Leaders produce a clear set of priorities and a framework against which to allocate resources, commensurate with risk to the employees, the customers, and the public. This is especially important in a technologically complex organization with a high risk product. Employees, in turn, are inspired by the climate of commitment and feel motivated to accomplish the leaders' desired results.

What Are the Characteristics of the Organization? The organization has embarked on the journey of change aligned around the essential beliefs and actions of the leaders. Its decisions and behaviors reduce risk and have a positive and direct impact on quality performance and operational effectiveness. A mature organization will gather the right business information and use it within supporting management systems to identify, characterize, and manage both internal and external risks. The empowered employee will openly report quality issues and work with colleagues and management to resolve them. When unwanted events occur, the organization determines cause and corrective measures necessary to prevent reoccurrence, utilizes improvement processes as needed to rectify the problem, and institutionalizes the lessons learned within information systems fully accessible to all. Employees have confidence that their management will respond fairly to open and honest communication and will provide positive reinforcement for reporting issues and taking action to resolve them.

QMS REQUIREMENTS	
	Requirements based on framework selected: Baldrige, ISO, INGAA, CII, etc.

SAFETY CULTURE

When people in an organization believe that safety is important, they behave with care and concern about how they do their jobs, how they protect their colleagues, how they protect their customers, and how they protect their public.

What is Safety Culture? People are persuaded of safety as a value only when organizations and their leaders consistently demonstrate that value. When it comes to safety, there must be "constancy of purpose." The achievement of this goal will determine the ultimate success or failure of the organization. When the employees of a company identify with safety, it is contagious—employees interact with each other and reinforce this value. Sharing it creates a sense of purpose and influences how employees move forward on shared missions. The ongoing practice of caring about safety strengthens the overall organization's belief in its value and acts as a unifying force. When the value is shared extensively on every level of the organization and a widespread level of commitment to overall safety performance is expected, then everyone is doing what is right, when no one is looking. Then we can say: a "safety culture" thrives.

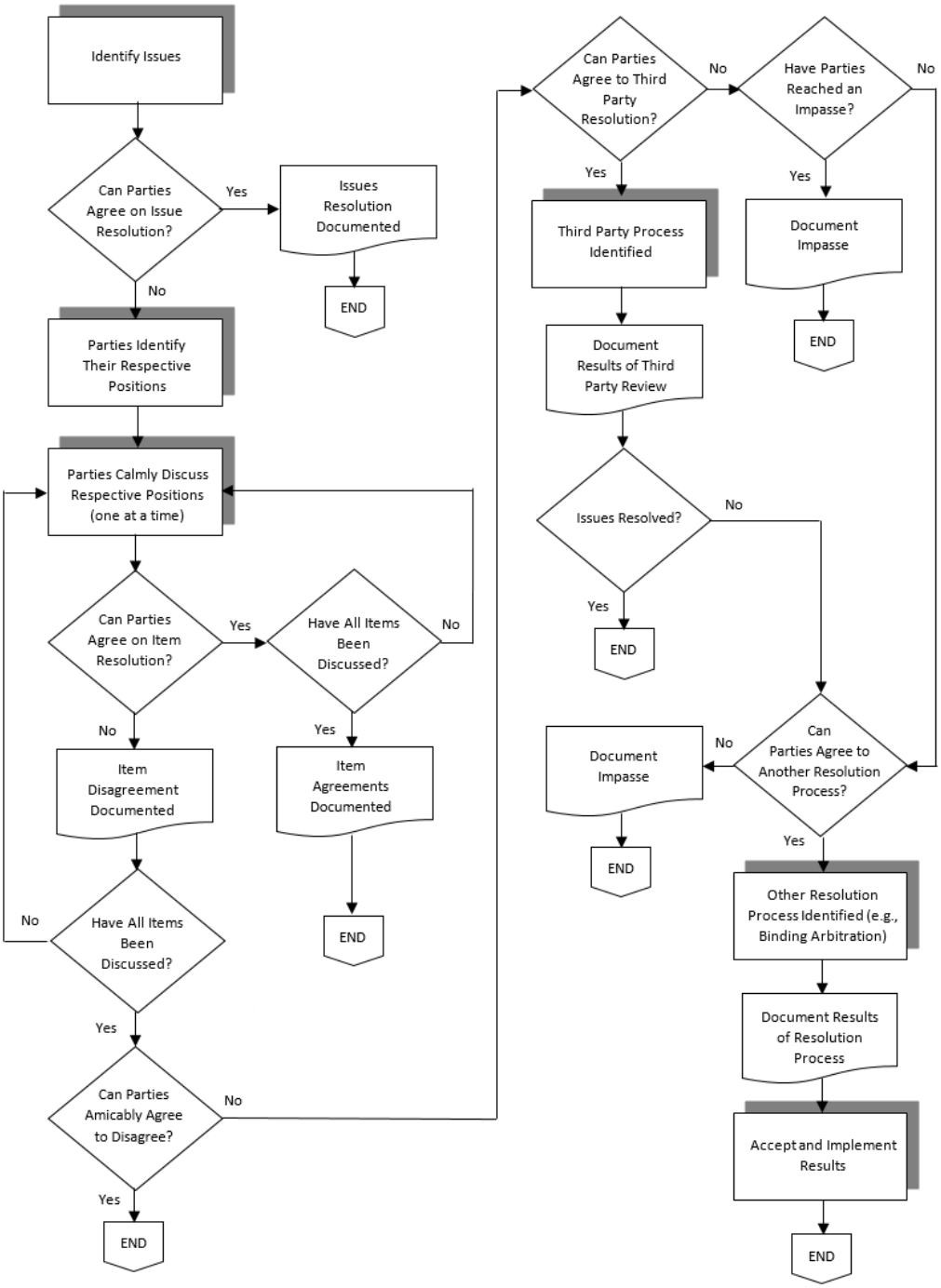
What Is the Role of Leadership? Strong leaders create organizations that are caring and responsible. To do so, they lead by example, convey a sense of ethical responsibility and practice good process, always. Leaders produce a clear set of priorities and a framework against which to allocate resources, commensurate with risk to the employees, the customers, and the public. This is especially important in a technologically complex organization with a high risk product(s). Employees, in turn, are inspired by the climate of commitment and feel motivated to accomplish the leaders' desired results.

What Are the Characteristics of the Organization? The organization has embarked on the journey of safety aligned around the essential beliefs and actions of the leaders. Its decisions and behaviors reduce risk and have and have a positive and direct impact on safety performance and operational effectiveness. A mature organization will gather the right business information and use it within supporting management systems to identify, characterize, and manage both internal and external risks. The empowered employee will openly report safely issues and work with colleagues and management to resolve them. When unwanted events occur, the organization determines cause and corrective measures necessary to prevent reoccurrence, utilizes improvement processes as needed to rectify the problem, and institutionalizes the lessons learned within information systems fully accessible to all. Employees have confidence that their management will respond fairly to open and honest communication and will provide positive reinforcement for reporting issues and taking action to resolve them.

ESSENTIAL INGREDIENTS OF A SAFETY CULTURE*	
1. Informed:	Organization collects right safety & business date & turns data to knowledge
2. Reporting:	Employees are open to report issues, free of fear
3. Learning:	Organization creates, acquires & transfers knowledge & modifies behavior
4. Just:	Leaders redefine responsibility and accountability; remove punitive connotation
5. Flexible:	Organization can adapt to rapidly changing environments & threats

*Dr. James Reason, 1997

Section 4: Dispute Resolution



About the Author

Joseph W. (Joe) Martinelli is a charter member of the National Academy of Construction. He was president of Chevron Pipe Line Company before forming Performance Improvement Consultants in 1998, now PiPRO. Previously, he was the general manager of Chevron's Engineering Technology Department, vice president of Petro-Canada, and held numerous domestic and international positions with Gulf Oil. He is a former chairman of the Construction Industry Institute (CII) and was a Baldrige Quality Award examiner for three years.

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