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Safety Management

After reading this chapter, you will be able to:

- Recognize significant events in the safety, health, and management fields and determine how these influence your organization's safety management focus
- Recognize fundamental principles of safety management
- Define key safety terms and explain concepts that relate to safety management
- Differentiate between insured and uninsured costs
- Define the five phases of continuous improvement
- Identify the strategies involved for creating large-scale organizational change



Managing safety starts from the premise that most incidents can be prevented. It includes the premise that *incidents* are near accidents and that so-called *accidents* are not random events, but rather preventable events. They can be prevented with proper hazard identification and evaluation, management commitment and support, preventive and corrective procedures, monitoring, evaluation, and training. Team leaders and supervisors are important links in the chain of safety consciousness. They are responsible for watching over the workplace and protecting their employees from faulty equipment, carelessness, and the many other potential hazards on the job.

TRENDS IN SAFETY MANAGEMENT

Occupational injuries and illnesses have been known to occur in human activity for as long as there have been workplaces, and have been documented in historical records long before the construction of the Egyptian pyramids. However, the concept that work-related injuries and illnesses could be reduced through safety management is relatively new. Only in the past century have work groups paid much attention to organized or systematic safety practices.

Changing Focus

Until the beginning of the twentieth century, many owners, and society at large, took a fatalistic view of safety. Much of the history indicates that they saw incidents as regrettable but not preventable. As farms failed, farm workers and new immigrants swelled the city labor markets, providing plenty of workers willing to risk life and limb for a decent wage. But tragedies like the Triangle Shirtwaist Company fire on March 25, 1911, in which more than 146 workers—all women and many of whom were minors—died because of locked fire exits, led social reformers and labor unions to push for more humane conditions in the workplace.

Physical Workplace. By 1910, the reformers succeeded in getting workers' compensation laws passed. Now employers had a greatly increased financial stake in making the workplace safer, and general support for safe workplaces was increasing in society at large. In 1913, the National Safety Council was established to provide research and information on how to increase safety.

The 1920s were a time characterized by interest in scientific management.



Many companies still treated their employees as interchangeable parts but also recognized that improved safety led to improved productivity. Many employers began inspecting the physical work space, keeping it clean and monitoring working conditions. In the 1930s, H. W. Heinrich wrote the first significant book on modern safety management called *Industrial Accident Prevention*. Companies began to study not just physical workplaces, but also human contributions to incidents. The emphasis was on safety on the factory floor at this point because industrial incidents tended to be far more numerous and more serious than those in office settings.

Health Issues. In the 1940s, the focus of safety management was broadened to include prevention of not only incidents but also illnesses. Workers' compensation was updated to cover disability caused by work-related disease and industrial hygiene problems. Management style, however, was still in the "command-and-control" mode, a legacy of the military model.

In the 1950s management adopted the behavioral approach and turned to technology for solutions. Companies began to apply management and motivational principles in an effort to change workers' behavior. At the same time, some came to believe that technology had all the answers. Emphasis was on engineering—prevention of safety and health problems by redesigning or modifying equipment.

Environmental Issues. During the 1960s, national concerns about safety broadened to include the office environment, and government began to recognize many serious environmental risks. In the late 1960s, workers' compensation laws were also updated to include compensation for illness and disability caused by noise.

In 1970, the Williams-Steiger Occupational Safety and Health Act was passed, and the federal government established the Occupational Safety and Health Administration (OSHA) in 1971. OSHA was given the power to monitor companies' compliance with newly legislated safety and health standards, and impose heavy fines on those companies not in compliance. Safety and health efforts began to reflect employee participation in management.

For at least two decades, gradual changes in safety and health management occurred until the 1980s, when priorities shifted from hazard identification to hazard prevention. Next came the inception of a general movement toward proactive, rather than reactive, safety and health management. In the 1990s, safety experts worked to create systems to identify and eliminate workplace



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hazards. The focus is now on integrating safety, health, and environmental management throughout the business strategy. Every employee, from CEO to forklift driver, is now seen as responsible for safety. Most managers today accept that good safety, health, and environmental programs contribute to the health of the company's bottom line.

Safety Management

The understanding of what causes incidents has changed over the years. At one time, safety experts believed in the *domino theory*. That is, they thought a mishap or loss was caused by one specific unsafe act or condition and that removal of that act or condition would solve the problem.

The overly simplistic domino theory has been replaced by the *theory of multiple causation*. Safety experts now try to look for all of the factors that may have contributed to a given incident. Studying all contributing causes that may have led to the loss helps them to identify the root or key causes.

Frequency refers to the number of times a specific incident occurs. *Severity* describes how serious the consequences are (which may be measured for injuries and illnesses by the number of affected employees). Some safety experts once concentrated on reducing only high-frequency incidents, but modern risk assessment considers both variables.

Changing Management Styles

At one time, the role of managers and supervisors was to dictate what should be done. The role of employees was to follow those orders unquestioningly. Companies have come to recognize that management does not have "all of the answers" and that other employees are capable of contributing far more to the success of the business than was once believed. Just as employees are sharing responsibility for manufacturing and customer service and other "line" decisions, they are also participating more in safety and health decisions. This approach invests all employees in making the workplace safer.

As employees are permitted more participation in making workplace decisions, they tend to take more and more responsibility for their own safety and health. Current management styles of empowerment, total quality management, and continuous improvement recognize that safety is everyone's job, and that the people most likely to spot problems on the job are those who are performing the job. It is becoming more common for decisions to be made by the people who are "closest to the action," which results in empowerment.



Some American corporations have concluded that the use of self-directed work teams is among the most productive ways to organize the workforce. In successful teams, each member buys in to the team's and the company's goals. No matter what product or service the company provides, one of those goals is always to achieve a safe working environment. Each employee's job description should spell out accountabilities for safety and health. In truly effective companies, senior management has committed to the safety and health policy and addressed it in the business plan.

PRINCIPLES OF SAFETY, HEALTH, AND ENVIRONMENTAL MANAGEMENT

The management of safety, health, and environmental programs has evolved over the years. Some forward-thinking companies now have programs that include written principles that guide safety and health efforts. These principles are called *Key Results Areas*, or KRAs.

Definitions

To make sense of these principles, it helps to define the terms relating to the topic of safety.

Acceptable Level of Risk. A zero-risk environment does not exist. The goal is to reduce risk to an "acceptable" level. Risks are acceptable if judged to be tolerable. For any operation to succeed, risks must be acceptable.

Control. A process intended to control or eliminate future hazards by taking preventive action or controlling or eliminating current hazards by taking corrective action. Methods of controls include engineering, administrative, and personal protective equipment.

- **Engineering controls.** Engineer the hazard out by initial design specifications or by applying substitution methods, isolation, enclosure, or ventilation. In the hierarchy of control methods, engineering control methods should be considered first.
- **Administrative controls.** Reduce employee exposures through methods such as education and training, work reduction, job rotation, maintenance/repairs, housekeeping, personal hygiene, and appropriate work practices. Administra-



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tive controls depend on constant employee implementation or intervention.

- **Personal protective equipment (PPE).** A device worn by employees to protect them from the environment. PPE includes anything from gloves to full body suits with self-contained breathing apparatus and can be used with engineering and administrative controls.

Hazard. Any existing or potential workplace condition that, by itself or by interacting with other variables, can result in death, injury, property damage, or other loss.

Incident. Any unplanned event that results in personal injury or damage to property, equipment, or the environment; or an event that has the potential to result in such consequences. Within this context, incident includes all occurrences, regardless of degree, with the purpose of focusing safety control strategies on the elements of causation.

Incidence Rate. Incidence rate, as defined by OSHA, is the number of occupational injuries and/or illnesses or lost workdays per 100 full-time employees. The formula for calculating incidence rates is:

$$\frac{\text{number of injuries and illnesses} \times 200,000}{\text{total hours worked by all employees during the period covered}}$$

Injury. Physical harm or damage to the body, such as a cut, fracture, sprain, amputation, etc., in the work setting. An injury results from an exchange, usually acute, of mechanical, chemical, thermal, or other environmental energy that exceeds the body's tolerance.

Prevention. A proactive process to keep something from occurring.

Risk. A measure of the probability and severity of adverse effects.

Risk Assessment. The ranking of risks by three criteria: exposure, severity, and probability. In addition, it is an effective means of prioritizing actions.

Safety. The control and elimination of recognized hazards to attain an acceptable level of risk. Figure 1-1 illustrates the multiplier effect of unrecognized hazards.

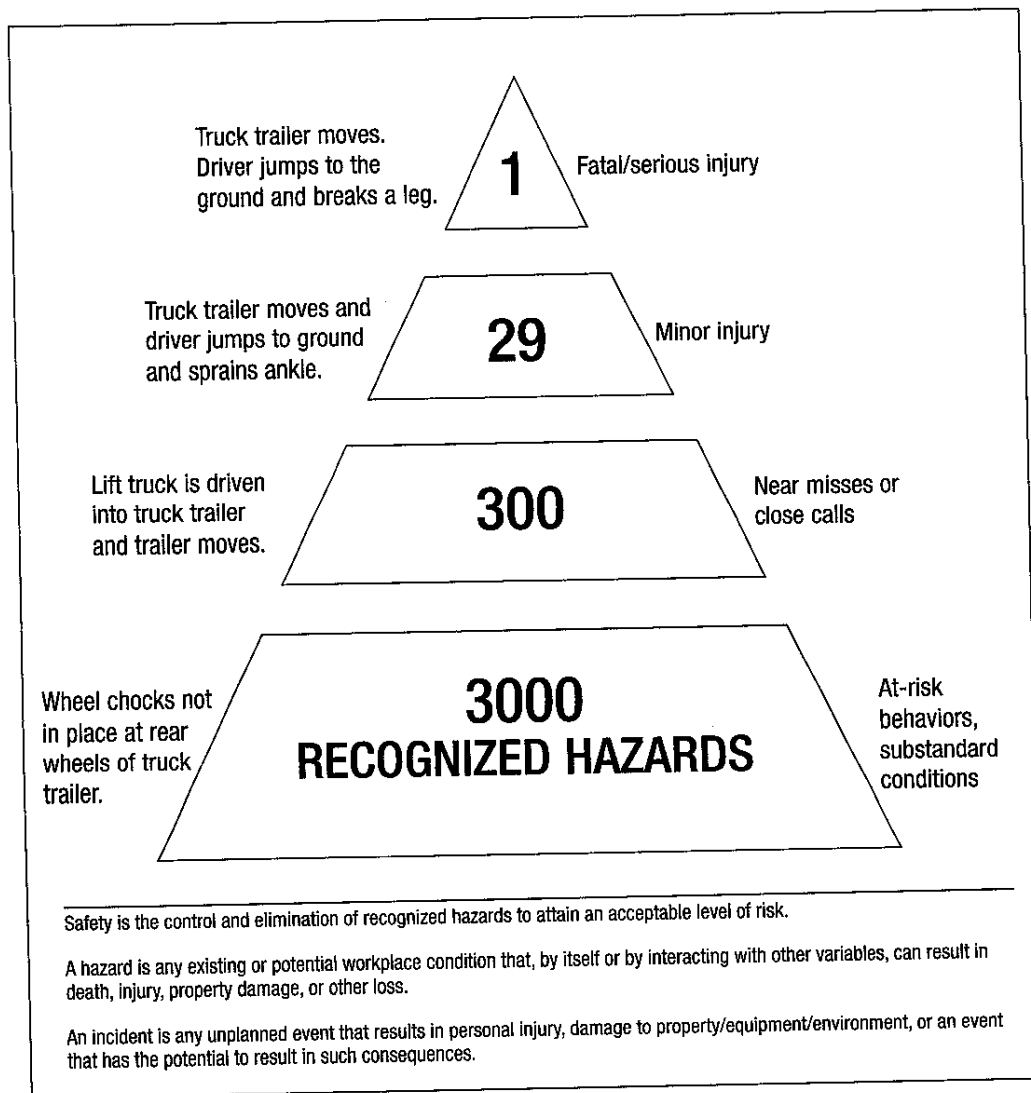


Figure 1–1. If left unrecognized and uncontrolled, the hazards that produce today’s no-injury or minor-injury incidents will produce tomorrow’s disabling injury and/or serious equipment damage. All hazards are important. All should be recognized and evaluated for control action.

Effective safety efforts involve the control and elimination of recognized workplace hazards to attain an acceptable level of risk and to promote the well-being of workers. Optimal safety results from a continuous proactive process of anticipating, identifying, designing, implementing, and evaluating risk-reduction practices.

Safety Management System. A safety management system is an organized and structured means of ensuring that an organization (or a defined part of it) is capable



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of achieving and maintaining high standards of safety performance. The management system should be based on the principles of continuous improvement.

THE PREVENTION PRINCIPLE

The prevention principle states that the best safety and health management systems don't just eliminate the hazards; they also seek and eliminate the causes of hazards. In doing this, the organization builds a solid foundation for prevention of mishaps.

Accountability

In order to be effective, employees throughout an organization must be held accountable for their safety and health results. This means that they will be measured and evaluated based on their results in identifying and eliminating workplace hazards and mishaps.

The Human Factor

Most safety experts agree that most mishaps in the workplace involve human errors of omission or commission. A major step toward improving safety is eliminating those factors within the organizational system that contribute to human error. This includes not only worker errors but also errors by designers, engineers, purchasing agents, supervisors/team leaders, and anyone else.

As industrial designers have become more aware of safety issues, they have begun to invest in and design more provisions for safety: automatic shutoffs for equipment, foolproof operating mechanisms, and ergonomic workstations, for example. In *Turn Signals are the Facial Expressions of Automobiles*, Donald A. Norman points out that a multimillion-dollar jet plane's performance should not depend on the stability of a three-cent polystyrene cup sitting on top of a badly located but crucially important lever in the cockpit (Norman 1992, 167). A custom-designed part in a well-located area may cost more, but will also provide the required control reliably.

Organizations cannot afford to wait until they can build facilities, processes, and equipment to design for safety. They must modify or replace existing ones that are hazardous in any way. Designing for safety has the effect of designing for efficiency, and even productivity, since it reduces employee fatigue, injuries, and illnesses. Safe workplace design reflects physical and psychological compat-



ibility among the employee and the process, methods of operation, equipment, materials, and machinery.

Business Integration

In the past, safety and health programs and efforts have not been effectively integrated into the business strategy. As a result, they haven't been as successful as they could be. Safety professionals and company chief executives are now seeing the benefit of integrating safety efforts and making them a part of the essential business operations. Like other management processes, safety and health efforts should be planned, budgeted, measured, and evaluated.

Frequency and Severity

Frequency refers to the number of times a particular loss or mishap occurs. *Severity* refers to the seriousness of the loss or mishap. In the past, some safety professionals concentrated their efforts on reducing high-frequency incidents with the belief that overall incident severity would also decrease. This belief has proven to be inaccurate. Modern risk-assessment methods recognize that frequency and severity measure different aspects of incident occurrence and both must be considered when setting loss control priorities.

INITIATING A SAFETY MANAGEMENT SYSTEM

The term safety management means an organized and systematic approach to managing safety efforts. It identifies, controls, and eliminates the causes of hazards, ultimately supporting good practices and success. Because the scope of safety issues is vast, it requires a carefully planned system, structure, and process to make it successful. Overall, the main route to excellence in safety performance is an effective safety management system.

Creating a Safety Management System

In creating a safety management system, a company must first clarify and establish its safety and health philosophy, beliefs, and vision or mission. Through these efforts, a culture that promotes safety and health is established.

Once a company has its vision, planners must identify specific elements that support it and design strategies for putting it into action. Then managers must create policy and procedures (steps) to define the who, what, when, where, why



and how of achieving it. The process is repeated as the organization builds on successes and learns from less successful efforts.

Organizing the Safety Management System

A comprehensive safety management system should give equal consideration to the administrative, operational and technical, and cultural issues of safety and health.

The National Safety Council's *Nine Elements of a Successful Safety Management System* provides the structure and organization necessary for a comprehensive and balanced safety management system. It gives equal consideration to the administrative, operational and technical, and behavioral issues necessary for a comprehensive system. Figure 1-2 and Table 1-A show how the elements of NSC's safety management systems are organized according to these basic categories.

Continuous Improvement of a Safety Management System

The Continuous Improvement Process Model shown in Figure 1-3 illustrates how continuous improvement works. The model is a framework for applying a safety management system on a continuous basis. Applying the process that forms the model requires recognizing causes before designing solutions.

There are five steps in the continuous improvement process for implementing a successful safety management system (see Table 1-B).

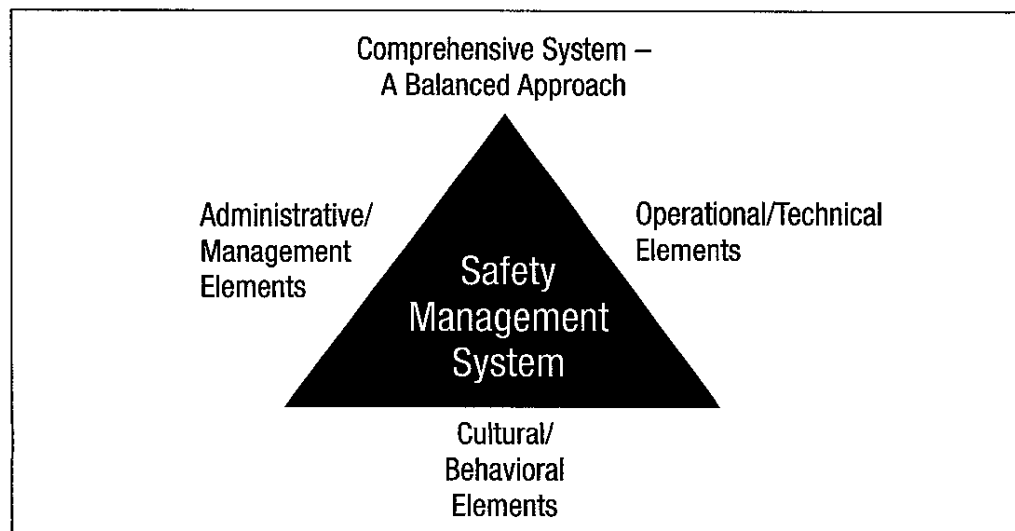


Figure 1-2. An effective safety management system should give equal consideration to administrative, operational, and cultural safety and health issues.

**Table 1–A. Nine Elements of a Safety Management System**

Administrative and Management	• Management leadership and commitment • Organizational communications and system documentation • Assessments, audits, evaluations, and continuous improvement
Operational and Technical	• Hazard recognition, evaluation, and control • Facility design and engineering • Operational safety programs
Cultural and Behavioral	• Employee involvement • Motivation, behavior, and attitude • Training and orientation

Budgeting for Safety, Health, and Environmental Management

A budget is a financial plan that shows the funds an organization will need to achieve its goals. Budgets generally describe how much money, time, and material will be spent, and on what. They also show how much money will be earned and from what sources. Budgets are prepared annually, quarterly, monthly, and in other increments, as needed.

There are many expenses involved in running a comprehensive safety, health, and environmental effort. They include everything from incident investigation costs to eyewash fountains, from printing of newsletters to training and incentives. It is important to remember that the effort yields many savings as well. A cost-benefit analysis can prove to management that the program is worth the expense. The question is not whether the program has costs, but whether it is preventive and produces benefits greater than the costs.

In order to convince management to invest in training, equipment, or material, safety professionals detail the reasons why these investments are needed. They can calculate the costs of accidents or injuries, including direct and indirect costs. Direct costs include medical, legal, insurance premium increases, injury compensation, and time and material costs to repair equipment or tools. Indirect costs include hiring and training replacements for injured workers; time lost when other employees help with, watch, discuss, or otherwise react to the incident; machine or equipment downtime; accident investigation costs (interview and administrative time); overtime required to catch up after the incident; and the cost of supervisory time spent handling it.

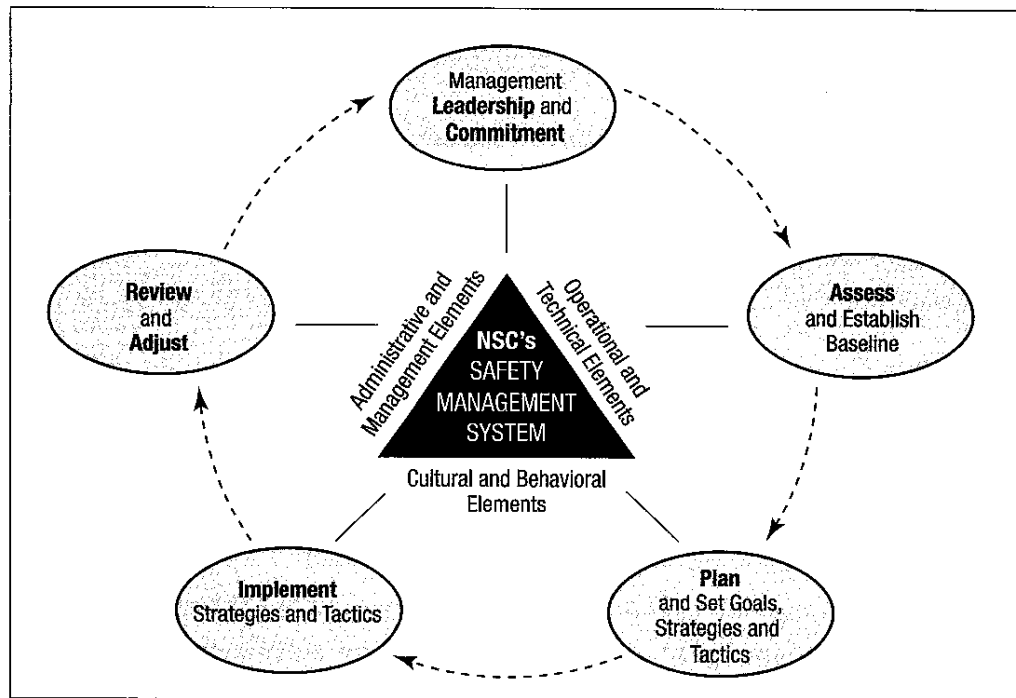


Figure 1-3. The continuous improvement model is a framework for applying the safety management system on a continuous basis.

The managers then compare the purchase cost to the cost of one incident, to see how many prevented incidents it takes to pay for the expected costs for training, equipment, or material. They determine the likelihood that the purchase will prevent incidents and the number of potential preventable incidents to calculate the potential dollar cost of loss prevention in the first year. Then they use the company's profit margin to figure how much product the business must sell to make up for the loss. Typically, it takes only a few prevented incidents to pay for the purchase. If the purchase would likely prevent many incidents, it effectively saves the firm money.

Total incident costs can be compared to an iceberg, as shown in Figure 1-4. Experts calculate that for every dollar of direct accident costs, there may be \$4 to \$10 of insured costs, \$5 to \$50 of uninsured ledger costs, and \$1 to \$3 of uninsured miscellaneous costs.

Safety pays in two ways. First, it results in fewer disabling injuries, lower workers' compensation costs, and lower replacement costs. Second, it frees up managers from time spent managing safety crises, so that they can concentrate on quality; productivity; proactive safety, health, and environmental issues; and competitiveness in the market.

Table 1–B. The five steps in the continuous improvement process

Provide Management Commitment and Leadership	• Executive Management must drive the effort • Create a vision, set performance standards, define roles, responsibilities, and accountabilities • Establish systems that measure and evaluate performance • Communicate the vision
Assess—Establish a Baseline	• Use NSC's nine elements to assess your current status and determine where to direct future efforts • Communicate the findings
Plan—Set Goals, Strategies, and Tactics	• Set measurable improvement goals • Align safety improvement plans with business priorities • Communicate the goals
Implement—Strategies and Tactics	• Make the plan happen • Provide training when and where needed • People need to understand that this is as much a part of their jobs as is production • Acknowledge success
Review and Adjust	• Learn what worked and what didn't work • Discard what didn't work • Assess again and repeat the process

SAFETY, HEALTH, AND ENVIRONMENTAL MANAGEMENT IN TEAM-BASED ORGANIZATIONS

Traditionally, most businesses were organized as hierarchies. Decisions were handed down from managers at the top of the pyramid. Front-line workers had very little say in how they did their jobs, and no say at all in how the company was run. Managers were responsible for their departments and supervisors acted mainly as enforcers for managers. They assumed that if workers were given any autonomy, they would duck out of as much work as possible.

In recent years, however, there has been a major change in the attitudes and theories of American businesses. In many of today's businesses, the managers no longer dictate orders. They share power with their employees, who tend to respond with increased productivity because they are part of the team.

Businesses today are experimenting with several approaches to organizing their workforce. One of the most effective methods is self-directed work teams (SDWTs).

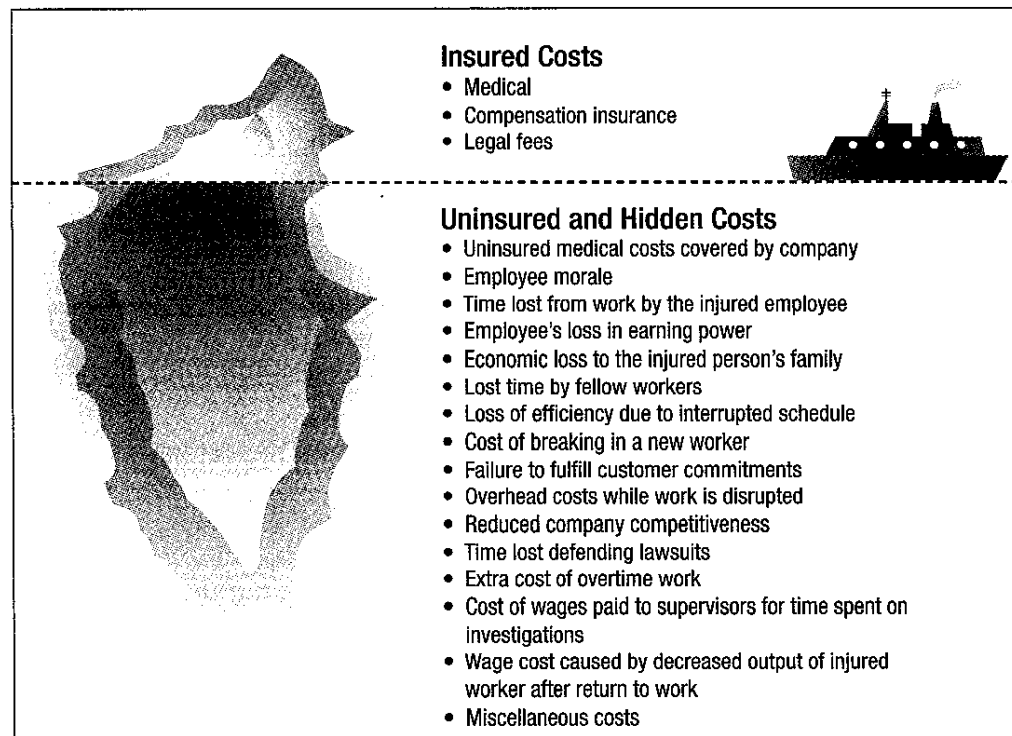


Figure 1-4. Like an iceberg, the hidden costs of incidents are not visible on the surface but are there just the same.

Characteristics of Team-Based Organizations

A self-directed work team is organized as a group of employees from different functions and departments who meet periodically (perhaps daily) to pool their knowledge and collaborate on creative problem solving. The team is ongoing, so its members may work together for several years. The members are multiskilled and responsible for a whole task or core process. They take ownership of their successes and failures. They constantly cross-train each other, and are always learning and improving. Their range of responsibilities is always increasing, often encompassing duties that were once the province of supervisors. They are empowered to make decisions on scheduling and vacations; to set goals and performance targets; and to interact with customers, vendors, and others. Their rewards are tied to their performance.

Self-directed work teams (also known as high-performance teams) have become popular because of their track records. Many of them have achieved higher quality, lower costs, faster service to customers, higher morale, and greater worker satisfaction than the old hierarchy-based systems. Many companies say that their people are their most important resource, but many of



those who have reinvented themselves into self-directed teams can demonstrate that they mean it.

According to Ann and Bob Harper's *Team Barriers*, there are 10 key elements to high-performing teams:

1. shared goals and mission
2. climate of trust and openness
3. open and honest communication
4. sense of belonging
5. respect for differences
6. continuous learning and improvement
7. ability to measure and self-correct
8. interdependence
9. consensus decision making
10. participative leadership

Cultural Values of Teams. The self-directed work teams must value productivity above all else. They achieve it by being flexible, imaginative, and motivated. They believe that knowledge is power, and that power is most useful when shared rather than hoarded. This system requires company management to provide feedback to everyone, handing out productivity reports, cash-flow statements, and customer complaints. Every employee has a right to this information; after all, in order to help meet the company's goals, they must know what these goals are.

The SDWT system also values autonomy, respect, and dignity. It is assumed that people can be trusted to do their jobs without external monitoring and that all employees will treat each other as responsible, intelligent adults.

Leadership Traits. One thing that the SDWT system has proven is that leadership does not depend on a degree from the right school or from a formal background in corporate management. Anyone can be a leader, given enough training and enough self-confidence. In fact, more and more, leadership duties are shared in rotation among all the members of a team. Each team member is responsible for a designated area (usually operations, training, safety, scheduling, human resources, communication, or quality control) for a specific time period.

For example, one person receives training in safety leadership and, for the next several months, attends all facility-wide safety meetings as the team's representative. Then a co-worker is trained in safety, and takes over the team's safety leadership role. This approach gives all team members a chance to develop lead-



ership abilities, and also to gain experience in interaction with other teams.

Team-based organizations know that, as W. Edwards Deming said, the job of management is not supervision but leadership. Leading does not mean barking orders, but rather providing guidance, information, encouragement, and inspiration. Leading means motivating employees to share the organization's vision and to strive to achieve it.

Leaders act as role models. By their own behavior, they show employees how to behave and what to value. Role models live up to the highest standards of the company. Leaders are role models every day, on a continuing basis, whether they want to be or not. In addition, they also coach and teach others both practical skills and details of the corporate culture.

Empowered Employees

Empowered employees are those who have the freedom to make many of their own decisions and the training to make good ones. Their jobs are designed to provide ownership of complete task areas and responsibility for their success. Their tasks are defined so that they are responsible for a meaningful process or output, have the power to make decisions and commit organizational resources, and continually measure their own progress. They share authority, resources, and recognition for the work process and results. They receive the skills training they need to do their jobs well, which is tremendously empowering.

Empowerment tends to give workers a reason beyond a paycheck for going to work. It enriches their work life and promotes job satisfaction. Employees who are empowered do more than just stamp out machine parts or answer telephones or blindly follow a limited set of steps. They are in a position to implement the organization's vision and to understand how they personally contribute to achieving it.

For this system to work, employees must be treated honestly and with respect, and management must recognize that front-line employees are the organization. As such, these employees want to know what's really going on. They need information on all aspects of the business, not just their own small segment. They need to know about costs, budgets, quality standards, customers, vendors/suppliers, and competitors. When top management shares all this information freely, the teams are more likely to support its actions.

To be empowered, people need to be trained and educated continuously in three areas:



- technical training (their own skills, new skills, quality, and safety)
- interpersonal/team training (communication, team development, conflict management, leadership skills, decision making, problem solving, etc.)
- administrative skills training (for the tasks that supervisors used to do, like scheduling, budgeting, and interviewing)

It has been demonstrated that employees who have the power to fix problems on their own do so faster and better than when they have to go through layers of management for approval. This leads them to take more pride in their work and counteracts the dehumanizing effects of severely limited, boring, and repetitive tasks. This system is based on the belief that empowerment becomes a way of life and is not just the management “fad of the month.”

Employee Involvement in Safety

Some companies have a safety leader whose job is to get employees involved in the safety, health, and environmental program. In companies where the team system is used, this work is done through management supervisors and team leaders who are responsible for motivating people to care about safety. Employee safety committees, contests, newsletters, and posters are some of the tools they can use. The safety expert may work as an “inside consultant” to provide direction and technical support for others.

The following steps would be helpful for anyone creating a safety, health, and environmental team:

1. Create a character vision for yourself and live it daily.
2. Respect others and accept their differences.
3. Involve others in the process of creating your safety and health vision and goals.
4. Encourage participation by inviting, and listening to, opposing points of view.
5. Involve others in solving, and making decisions related to, safety and health problems.
6. Build an atmosphere of respect, trust, and inquiry.
7. When others need help, the safety, health, and environmental professional provides coaching, resources, support, and assistance.
8. Give recognition and rewards often and consistently (see Chapter 5, Employee Involvement).



Maintaining Interest and Motivation

Motivation involves moving people to action that will support the company's desired goals. In occupational safety and health, motivation increases employees' awareness, interest, and willingness to act in ways that improve their own safety and that of co-workers. Motivation aims primarily at changing behavior and attitudes. It is generally defined by three factors:

1. direction of behavior
2. intensity of action
3. persistence of effort

Motivation efforts should support the mainline safety, health, and environmental system, not take its place. Chances of success increase when the following factors are present:

- management demonstrates its commitment at every opportunity
- the program is energized through slogans, performance recognition, and discipline
- workplace conditions are safe and healthful
- tools, equipment, and workplace layout are well-designed
- maintenance is effective
- training and supervision are abundant and effective

Job Safety Analysis. A job safety analysis can lay the groundwork for behavior change because employees participate in identifying hazards and finding ways to eliminate them. When all workers are involved in formulating safety needs and devising a safety plan, each one has a greater stake in carrying out the plan. Such participation should be reinforced through an open communication system that welcomes employees' safety concerns and responds to them promptly. (For instructions on how to do job safety analyses, see the section "Job Safety Analysis" in Chapter 5, Employee Involvement.)

Employee Surveys. Employee surveys help to identify safety priorities and build employee morale. They also provide a baseline for later evaluations of the effectiveness of safety initiatives. Group feedback is important. When a work group accepts safety improvement objectives, its members reinforce each other's behavior through peer pressure.

Fear. Many supervisors believe that fear can sometimes be an effective moti-



vator. This strategy attempts to change attitudes about the risks of hazardous behaviors by first instilling fear with statistics, photographs, or other information, and then reducing the fear by providing ways to prevent the danger or lower the risk. Fear messages may work better with new employees than with seasoned workers, who are likely to want to use their own experiences to discount the message. (“For years I’ve checked to see if circuits were energized by quickly touching them with the back of my hand, and I’ve never gotten injured!”) Fear messages are also more effective on employees who are not under direct supervision because they are on their own and may tend to take the information more seriously.

Total Quality Management Approach. One approach to motivating employees that has been effective is the Total Quality Management (TQM) model. TQM works to change employees’ attitudes in order to achieve a change in behavior. For example, it strives to train employees to an awareness of the importance of safety. This awareness will lead them to be more careful about always wearing safety equipment and checking the automatic shutoffs on their tools, for example.

TQM emphasizes process, or root cause, improvements. Such process changes flow from workers’ involvement and empowerment as both individuals and teams. People are far more likely to support change if both the objectives and the methods used to achieve them are based on their own recommendations, instead of being imposed by management.

Nothing less than a cultural change is called for in order to make TQM work. Management must give up trying to “manage” employees to conform to existing systems. Instead, managers must be willing to completely revamp processes and systems. They must realize that employees are in the best position to know how those processes could work better. The corporate culture must be flexible and responsive to employees’ needs. It must engender trust and cooperation between labor and management.

TQM is more difficult and time-consuming than simple reinforcement/feed-back motivational techniques. Its effects are, however, more wide-ranging and they last much longer.

Continuous Improvement Process of the Safety Management System

The continuous improvement process of the safety management system empha-



sizes the contributions people make to long-range, permanent solutions to problems. Essentially, the process shows how to effectively manage change in a safety management system. As previously discussed, there are five steps in the continuous improvement process:

1. provide management commitment and involvement
2. assess and establish a baseline
3. set goals
4. implement strategies
5. review and adjust

Continuous improvement is the emphasis of total quality management. Because everyone is always working to improve something, the only constant is change. This is also one impediment to a successful TQM program.

Constant change is somewhat uncomfortable because, among other things, it fosters a sense of uncertainty and insecurity. People like to establish a pattern and stick to it. Their natural resistance to change must be overcome if TQM is to be fully successful.

To apply the continuous improvement process, companies must understand causes before they try to design solutions. Improvements, whether dramatic or incremental, occur regularly. The nine components of effective safety, health, and environmental programs listed earlier in the chapter facilitate the continuous improvement process.

Barriers and Challenges to Team-Based Organizations

Although the team structure has proven its effectiveness again and again, some organizations are still skeptical. There are many barriers that can either keep a company from trying teams or can sabotage the structure if it is undertaken halfheartedly. Among them are the following:

- lack of trust
- a climate of fear
- the uncertainty of constant change
- not involving all of the key stakeholders
- not involving unions (forming a partnership)
- lack of top leadership's demonstrated commitment
- lack of top management responsibility or role
- not allowing enough time to change



- resistance from any of the partners (supervisors, managers, support people, unions, or labor force)
- inadequate training
- systems and structures not designed to support teams
- workers who zero in on their co-workers' imperfections
- failure to redefine the role of leadership
- leaders who won't let go
- too little or too much structure
- no transition plan
- failure to provide work security assistance
- failure to communicate what's happening
- treating change like a program instead of a process
- overwhelming team members with too much responsibility before they have had adequate training
- a history not conducive to employee involvement
- failure to educate everyone in the workplace about self-direction
- failure to understand that TQM self-direction is a total cultural transformation, not just a modification
- amount of time and effort involved

The long-term improvements that teams generate can more than offset these problems. The potential of the self-directed work teams is to boost productivity and competitiveness, enhance people's quality of life, and turn many jobs from drudgery to fulfilling work in which the worker is integrally involved.

INFLUENCING AND MANAGING CHANGE

The team-based, empowered, continuous-quality workplace is changing all the time. On the one hand, that's a good thing because change is what enables the organization to remain viable and keep up with the competition. On the other hand, people tend to crave stability, and find constant change difficult. They may resist even changes for the better because the known is less threatening than the unknown.

Employees at all levels, especially upper management, may fight change in several ways: logically, emotionally, and through group influence. Even if their



real reason is to avoid emotional turmoil, they may be quite good at rationalizing logical reasons why the change is a mistake. When employees offer data that suggest the change may not work, top management must reassure them and explain the benefits the change will bring them.

Sometimes only one or a few people in the group feel strongly opposed to change, and they manage to convince the whole team to resist. The key is to identify those lead resistors and then listen to their reasons. People resist change imposed by someone else, but if the change is their idea, or they have contributed to it in even a small way, they are more likely to welcome it.

Change often precedes perception. Sometimes people cannot understand why they should follow a particular procedure until they try it. Then it begins to make sense to them. Change involves breaking old habits, both individual and organizational, and replacing them with new ones. Such disruption can be wrenching, so people need an incentive to make the effort. They need to be convinced that the change will make their lives better. Without such a conviction, they will just be going through the motions.

Change has a ripple effect. When it occurs in one area of the organization, it will affect other areas. Change reaches critical mass slowly, and then speeds up.

Strategies for Managing Large-Scale Change

To restructure an entire company, or even a single department, top executives need a change strategy that encompasses a period of months. They should get and use input from as many people as possible before even beginning to design the change. Then they should solicit support from as many people as possible, beginning where they know they have the most support.

Executives need to clearly communicate expected positive results of the change. They will need to plan and communicate the logistics as well. Communications and public relations pieces should be designed to integrate the new, desired culture.

Executives should pace the implementation. A common mistake is to try to make everything happen at once. Executives should study the organization's dynamics and then use them to create change. They need to provide training and education about the change. A checklist for managers will show them how to support and enhance the process.

The change masters should set the example. They should model the behavior they are trying to achieve, whether it be sharing information or wearing



protective gear on the factory floor. At the same time, they need to be patient. It is the nature of human behavioral change to start slowly.

Steps for Influencing Individual Change

Supervisors and team leaders can find themselves in the position of coaxing individuals to embrace change. A meeting to coax an individual to embrace a change should be well-planned, using the following five steps:

- Step 1: Plan ahead. Consider beforehand what the person's leadership style is and whether he or she is supportive, neutral, or unsupportive of your goals. How will the change benefit this individual? Practice your meeting with a supportive colleague.
- Step 2: Begin the influencing meeting positively. Create a relaxed environment. State your reason for meeting and gain agreement on the goal of the meeting. Establish trust.
- Step 3: Discuss the change. Lay out your ideas. Then discuss the other person's concerns. Are they logical, emotional, or group influenced? Deal with those concerns respectfully.
- Step 4: Engage in mutual problem solving. List the areas where you agree and those where you disagree. Share important criteria and priorities. Design a solution that addresses both your priorities and the other person's.
- Step 5: Gain commitment. If the person is not yet willing to support the change, ask for a commitment to try it out briefly. If the individual won't agree to that, ask for a commitment to just think about what you've said. Think of yourself as a low-key salesperson here.

Common Mistakes When Influencing Change

Here are common but critical mistakes to avoid when you try to influence change:

- acting without seeking input
- seeking input but ignoring it
- acting without completing all of the proper groundwork
- forgetting to see how the change might be a threat to others
- not tuning into, "What's in it for me?"
- becoming impatient
- ignoring the benefits of small, incremental changes
- trying to change too much too fast



SUMMARY OF KEY POINTS

Key points covered in this chapter include:

- The focus of safety has changed and expanded over the years to encompass not just the physical workplace but also health and environmental issues. Safety experts know now that hazards have multiple causes, and that both the frequency and the severity of incidents must be controlled.
- All near misses and minor incidents should be investigated. They are an early warning system that can help prevent serious incidents later on. The ultimate goal of any safety program is loss control.
- All employees must be accountable for maintaining safe working conditions and practices. They must remember that safety is everyone's job.
- The safety, health, and environmental policy should be integrated into the company's business plan and supported by top management.
- The National Safety Council has identified nine elements of a safety management system. They include administrative and management, operational and technical, and cultural and behavioral components.
- Indirect costs add significantly to the costs of accidents. Safety experts can run a cost-benefit analysis to demonstrate to management why certain training, equipment, or material is worth the investment.
- Team-based organizations give their employees a great deal of autonomy and a corresponding amount of responsibility. Teams are becoming increasingly prevalent because they can improve quality while reducing costs.
- Empowered employees are those who have the freedom to make their own decisions and the training to make good ones. They receive constantly updated training in technical, interpersonal/team, and administrative skills.
- Companies and team leaders can motivate employees through job safety analyses, in which they participate in devising a safety plan, and employee surveys. Fear can sometimes be an effective motivator, depending on the audience. Total quality management is a good motivator, but requires a cultural change in the organization.
- Continuous improvement is a process-oriented approach that involves five steps for implementing a successful safety management system.
- There are many barriers to the team-based structure, but the payoff is believed to be worth the time and effort it takes to overcome them.



- The team-based, empowered, continuous-quality-improvement workplace is changing all the time. Many people are inclined to resist those changes, but motivational techniques for implementing them can be used both throughout the organization and with individuals.

