

does not name a “safe employee of the month award” or display “motivational” safety posters. Employees already do that – and more – by themselves. They measure their safety performance and use safety teams to make continual improvements on their own suggestions.

She convinces supervisors that time spent on safety adds value to the company – it not only improves safety, it also increases productivity and quality. Management responds to safety problems in the same way it does to production problems. Employees are trained on problem solving techniques and given time to apply the PDSA cycle to fix the system. Safety is serious business and is always a win-win situation.

Conclusion

Traditional safety managers accept the system as it is and try to get the most out of it. In contrast, safety managers who use quality methods know that blaming employees for not complying with the rules provides no solution. As a result, they create trust between management and employees. Employees learn that their jobs involve more than just showing up and collecting a paycheck. In addition to normal production responsibilities, they study the safety system and help management solve problems within that system.

Safety professionals must chose between managing safety to “meet specifications” or using quality methods and continual improvement to satisfy safety customers. These approaches have nothing in common. You can’t reconcile them. You must chose one or the other for either one to be effective. Managing to meet safety specifications does not result in continual improvement. At best it maintains the status quo.

Managing safety using quality methods requires a new level of thinking in which employees are viewed as safety problem solvers, not the reason accidents occur. Management must continue evolving to meet customer demands. Layers of middle management, created to monitor and control employees, are not needed in new management models and will probably never return.

However, someone must manage the safety system. The new safety management model gives this responsibility to those who do the work. These people help gather and analyze data and make decisions that directly impact safety performance.

Using the new approach will help companies achieve a level of safety performance once thought impossible. The question for today’s safety professional: Which approach will you chose?

Thomas A. Smith is President of Mocal, Inc., Lake Orion, MI. He has worked with managers and teams of companies such as Pfizer, Ford Motor, Beckton Dickenson, Wyeth, Bama Pie to help them apply the management theory of continual improvement to safety management. He can be reached at 249-391-1818, tsmith@mocalinc.com and www.mocalinc.com.

employees, she strives to change the management-controlled safety system so employees can perform their jobs without fear of injury.

To do this, Kim takes a customer view of safety – employees are her most important customers. She constantly tries to get their voice into the process, which improves safety and productivity. Employees know best where safety improvements should be made.

To Kim, accidents are worse than producing scrap. When an accident occurs, not only do quality and productivity decline, so does employee respect for management. She sees safety as an outcome of the system. She understands that events that cause accidents occur randomly, that variation exists in everything – including safety. Each job is different, also each employee is unique, making it impossible to design a job for the “average” employee.

To enable management and employees to work together, Kim helps them take a systems view of safety, which uses the common language of statistics. Instead of a mechanistic view of accident causation, they look at accidents as a system outcome. Statistical process control charts provide a new way of looking at accident rates. All employees learn the philosophy of statistical process control and chart their safety performance. These charts show whether accidents are out of control due to special causes or are affected only by random variation. These charts also help supervisors stop blaming employees for accidents and focus efforts on system problems.

Kim establishes teams to identify, rank and solve production safety problems. These teams do not merely make suggestions about safety improvements, they also use the Plan, Do, Study and Act” cycle for safety:

- They use problem-solving tools such as process flow charts and cause and effect diagrams to develop and implement system changes.
- They study these changes and evaluate their effectiveness.
- If ineffective, the team sticks with the problem and makes improvements until its causes are eliminated.

Kim’s most important activity is to remove barriers that prevent employees from doing their jobs safely. She does not change their behavior through extrinsic motivators, but relies on intrinsic motivators such as pride in their work and self-preservation to keep safety foremost in their minds.

She knows that extrinsic motivators destroy intrinsic motivators, so she does not use safety incentive programs. Her time is better spent making certain real accident causes (poor management) are eliminated. Employees view a safety goal of 5 to 10 per cent reduction as “dumb” because it prevents them from improving the system. As customers, they want 100 per cent reduction.

Kim does not think of employees as faceless numbers. She knows they are thinkers and creative human beings. She needs and respects their opinions and ideas. Therefore, she

the safety committee, which establishes goals via management by objectives. He teaches this process to supervisors, and a mutually agreed upon goal for accident reduction is set (typically between 5 and 10 per cent.)

Joe implements a sophisticated program to collect accident data. Each department is monitored and compared, and changes in monthly rates must be explained. Managers are held accountable for accidents; they in turn hold their employees accountable.

Joe's idea of working upstream is changing employee behavior. To ensure that he is motivating employees to work safely, Joe establishes safety incentive programs, which reward employees or departments that achieve pre-set safety goals. Typically, the goals are zero accidents for a certain length of time. If goals are reached, gifts or monetary awards are presented at a banquet. If goals are not met, no awards are given, and the program is restarted or replaced.

In short, Joe's idea of a good safety manager is one who establishes an efficient, effective safety management system. His main responsibilities are:

- Monitoring managers and employees to ensure they follow his directives correctly
- Setting goals for employees
- Rating managers for the ability to follow safety instructions
- Evaluating employees to see whether they demonstrate safe behaviors
- Re-educating workers after an accident and returning them to work. If an employee frequently has accidents, Joe informs management, and that employee is reassigned or replaced if necessary.
- Providing numbers to show improvement. He explains poor results by identifying those who are ruining the program: this ferrets out the truly poor performers.

Quality safety management

Contrast Joe's approach with that of Kim, a safety manager who uses quality methods for safety. She feels her job is to facilitate a constant effort – safety does not start and stop depending on the most recent performance. Kim knows that as a manager, she works *on* the system and the employees work *in* it. To improve the system's safety performance, Kim knows she needs their knowledge and input.

Kim provides leadership; helping everyone – top management and employees – understand why the company must improve its safety performance. To manage safety using quality methods, she abandons the traditional approach of ensuring compliance with safety specifications, knowing that meeting safety specifications merely guarantees the goal will not be reached.

Kim focuses on underlying causal factors that create the interdependent activities, which allow accidents to occur. She works on critical behaviors of management, realizing that managers control the processes that lead to employee injuries. Rather than replace

learned how to make products and provide services without multiple layers of middle managers. In fact, middle management jobs are disappearing forever.

The bureaucracy and hierarchy of centralized management is being attacked and dismantled. The new management system exists not to ensure that managements' orders are executed, but to help employees and remove barriers that prevent them from doing their jobs.

Some organizations have learned that bigger is not always better with respect to management. Extra layers often create an organization that is slow to act and change. One can think of many large companies that have lost market share to smaller competitors who were better prepared to satisfy customers. Companies are learning how to be lean and still produce higher quality and quantity. How will safety fit into these organizations?

Management's job has changed

Employees' jobs used to be broken down into the smallest task – no thinking necessary. Instead, management did all of the thinking. This is not a “quality method” approach. Production problems are so vast and complex that everyone within the organization is needed to study and improve the system. What is true for production management is also true for safety management.

Companies are flattening their organizational structure, often by eliminating middle management. Technology is playing a key role in this evolution. Upper managers no longer need staff to gather, tabulate, analyze and summarize information about operations – they use computers instead. The endangered species list now includes middle managers who advise workers. Safety managers are on this list, as many companies are reducing safety staff along with other middle management departments.

Traditional safety management

Consider how one company's safety program is run by Joe, a safety manager trained in the traditional safety management methods taught in colleges and used in most organizations today. His goal is to run an efficient, effective department. To do this, Joe sets up activities to monitor and control employees and supervisors and ensure compliance with company safety rules and regulations.

Much of his time is spent providing government-mandated safety training and conducting safety inspections and audits. He negotiates next year's safety goals with top management. He sets safety standards for employees and tracks their performance, conducts accident investigations and recommends corrective action to prevent future incidents.

As demands on his time increase, Joe adds staff to help complete training, safety inspections, accident investigations and data collection. He recruits other managers for

command and control safety management. The focus of safety management is still primarily on the behavior of the individual employee rather than improving the system.

Imagine doing this for quality. Stating the main reason for defects or poor customer satisfaction is the fault of the workers. Management has not been able to make the connection or see the relationship between safety and quality I was trying to explain in this article. Safety, like quality is an outcome of the system of management. How a company hires, trains, treats and respects employees determines its safety performance to a much greater degree than meeting OSHA regulations or internal company safety audits.

I'm truly disappointed in the lack of learning by the safety managers who are still employed in that position. Although I have to say it's not their fault. Pick up any safety journal and you will still find that the majority of articles focus on traditional safety methods and techniques couched in the theory of quality.

If you analyze how they spend the majority of their time you will find it is spent on non-value added or after-the-fact activities such as safety audits and inspections, accident investigations or compliance efforts to achieve safety awards for recognition for these functional activities. They do not understand these efforts do nothing to fix or change the infrastructure of the management system. Yet they will look you in the eye and claim to employ modern management principles of employee empowerment and system improvement. (I presume they think continual improvement means improving what they already do, i.e. better inspections and accident investigations.) There is a definite lack of Profound Knowledge by safety managers.

Manufacturing in the U.S. is still in a state of crisis and worse, as Dr. Deming said in the early 1990's, we don't know it or won't admit it. Unfortunately, I see little or no progress in safety management to advance its ability to serve the customers it is really meant to serve – the people who do the work. I still meet “Joe” or a variation of him at every company I work with. I have only found a few “Kims” at the numerous companies I've been exposed to in the last 10 years since I first penned this article.

The original article

Many safety professionals talk about using the principles of quality methods or continual improvement to manage safety. However, close examination of what they are actually doing reveals that safety management is missing the point. The second wave of the industrial revolution is here and has changed safety management methods and personnel.

In early 1993, for the first time since records have been kept, more white-collar employees were unemployed than blue-collar workers. Quality methods have allowed companies to increase quality and productivity with less supervision. Companies have

Will Safety Be Ready for Workplace 2000?

An Article By Thomas A. Smith
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Introduction – August 2005

It's been ten years since I wrote this article and find that most of the commentary in it was fairly on target. The safety profession seems to be fading from prominence it once held in the 1980's to a lesser role in management. Safety is still handled more as an afterthought as demonstrated by the events of the Challenger and subsequent Columbia disasters. The emphasis is now on culture but there is little progress on that.

Lean manufacturing and re-engineering has certainly taken its toll on how many people are employed as safety professionals as management cuts employees to satisfy the numbers. Unfortunately, the reduction of safety managers and staff was not in response to a change of philosophy of empowering workers to improve safety, but merely to reduce overhead.

There has been a huge loss of manufacturing jobs in the US. Consider just a few of the facts and figures. An article in Managing Automation, May, 2004 stated, "An estimated 2.8 million U.S. manufacturing jobs have been lost over the last 42 months. Manufacturing employment in the U.S. is now at its lowest level in 45 years. Manufacturing production and new hiring remain stagnant, even as the economic recovery gains momentum. None of the 308,000 jobs that were created in March were in manufacturing, according to the Labor Department. And there has been a seemingly unstoppable decline in manufacturing's overall economic contribution. Since 1999, the percentage of U.S. gross domestic product attributed to manufacturing has slid from 16% to 14%. Manufacturing's share of the national income—29% in 1950—declined to 15% in 2000."

It doesn't take a rocket scientist to figure out that traditional middle management jobs such as safety manager or director are no longer high priorities in the boardroom. Sadly, I don't see the change in safety management I advocated back in 1996. Deep down inside, American managers believe they can delegate their responsibility for safety directly on the workers themselves and hold them accountable. They honestly believe that is the best way to manage safety. Dr. Deming warned about this approach in his seminal book, Out of the Crisis.

All one has to do is examine a safety policy statement or program of what is considered an otherwise progressively managed company to see the evidence and remnants of