

Successfully Implementing Safety Management Systems

Deborah R. Roy, MPH, RN, COHN-S, CET, CSP
Corporate Director of Health, Safety & Wellness
L.L.Bean, Inc.
Freeport, ME

Introduction

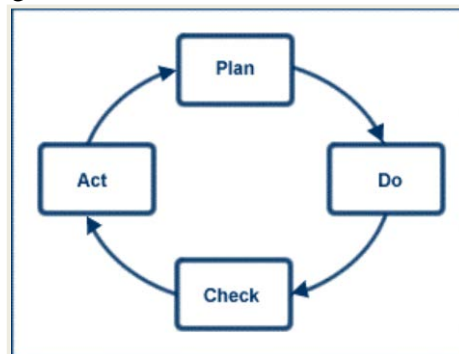
The concept of safety management systems (SMSs) is not new. Despite that, for most US companies, the approach to safety consists of a variety of safety programs that are intended to meet the prescriptive OSHA standards and hopefully reduce or eliminate work-related injuries and illnesses. The reality is that most companies with disjointed programs and safety professionals “doing safety” never achieve their goals on a consistent basis. Using management systems as a best practice approach can be a powerful tool to achieve success over the long haul. The idea is to eliminate risks and create a core value of a safe workplace instead of only fixing the physical environment. This paper will briefly discuss some common safety management systems and show how one company successfully implemented an SMS that reduced injuries and illnesses, along with significantly improving employee engagement and the overall culture.

The concept

A Safety Management System has been defined as: *"a formal framework for integrating safety into day-to-day [] operations and includes safety goals and performance targets, risk assessments, responsibilities and authorities, rules and procedures, and monitoring and evaluation processes."* (CRSA, 4 (1)). The principles of management systems are the same no matter what business function is applied. The key is the methodical and systematic control of business processes, in order to achieve pre-determined objectives. This is the basis of the Deming circle or cycle from the Total Quality Management movement. Deming applied his concepts to quality but they are just as relevant to safety and health. (Petersen 226, 255)

Below are the Deming elements and the Deming circle:

- **Plan** - make plans
- **Do** - carry out these plans
- **Check** - check the actual results: do they fulfill the aims?
- **Act** - correct where something has gone wrong and, where necessary or desirable, adjust the plans so that things go better from now on.



Three options

There are currently three major voluntary safety and health management systems for use by general industry. They are the: OSHA Voluntary Protection Program, British Standards Institute (BSI) Occupational Health and Safety Assessment Specification (OHSAS) 18,001, and the American National Standards Institute (ANSI) Occupational Health and Safety Management Systems Z-10. Note that some countries have government requirements for safety and health management systems, such as Australia, New Zealand, and the European Union. Other voluntary management systems include the American Chemistry Council Responsible Care program, and others that are specific to a certain industry. The International Labor Organization also provides Guidelines on Occupational Safety and Health Management Systems, although the document is not considered a standard.

First let us start with OSHA's Voluntary Protection Program. VPP started at federal OSHA in 1982 and evolved into a management systems approach in the 1990s. The stated purpose of VPP is to emphasize the importance of *systematic* management of OH+S, encourage improvement of safety and health programs, and to provide recognition of existing excellence in safety and health programs (Richardson 1, 7). The four major elements of VPP are: 1) Management leadership and employee involvement, 2) Worksite analysis, 3) Hazard prevention and control and, 4) Safety and health training (OSHA 2008). VPP includes an audit program by an OSHA team that includes both OSHA staff and volunteer Special Government Employees (SGE) who come from existing VPP approved sites. Approved sites are presented with a plaque and a VPP flag. These sites also are subjected to fewer inspections by OSHA, although that part of the program is under political scrutiny at this time.

The second system is Occupational Health and Safety Assessment Specification OHSAS 18,001. This management systems methodology, based on the British system, was originally published in 1999 and was updated in 2007. The stated aim of OHSAS 18001 is to assist organizations in managing and controlling their health and safety risks and improving their OH&S performance. The major elements of OHSAS 18001(2007) are: 1) OH&S policy, Planning for Hazard Identification, Implementation & Operation, Checking and Corrective 2) Actions, Risk Assessment & Risk Control, 3) Legal & Other Requirements, 4) Continual Improvement, 5) Objectives, 6) OH&S Management Programs, and 7) Training. The audit program for OHSAS is carried out by one of several consulting firms that are approved by BSI and called a Registrar. The registration audits may then result in OHSAS certification (BSI).

Third is ANSI Z-10 published in 2005 as the first US consensus standard. The stated goal of ANSI Z-10 is to use recognized management system principles compatible with quality and environmental management system standards such as the International Standards Organization (ISO) 9000 and ISO 14000 series, as well as with principles adopted by the ILO, to encourage integration of safety into other business management systems (ASSE, 3). The major elements of Z-10 are: 1) Management leadership and employee participation, 2) Planning, 3) Implementation of the occupational health and safety system, 4) Evaluation and corrective action, and 5) Management review (AIHA 3). Note that at the time of publication, there was no Z-10 certification scheme like other ISO standards or OHSAS 18001. More recently, Registrars who certify organizations for other standards appear to be incorporating Z-10 audits into other existing audits when requested.

Many companies have adopted management systems to improve organizational performance, including in the safety and health area. They are looking for ways to reduce injuries and illnesses in a more systematic way, or develop best practices beyond basic regulatory compliance. Companies that are ready to make changes often are looking for a “road map.” The options here represent common management system “road maps” that exist today.

So why would a company choose one of these safety and health management system as their “road map”? Companies choose to use a specific management system for occupational health and safety (OH+S) based on a variety of factors. These include: Type of industry, geographic location of the parent company, customer requirements/expectations, existing standards certifications (such as ISO 9000 or 14000), existing OH+S programs, and degree of recognition desired. For example, in some industries OHSAS 18001 has become the norm, so company sites, as well as vendors, are expected to be registered. For other companies who are based in the US, OSHA VPP has become the norm. Sometimes the system is chosen because one or more of the safety professionals at the site has experience with that management system. Regardless of why it is chosen initially, it is important that a company consider whether or not the implementation of a safety management system is intended to achieve certification or registration. The intended goal so can be communicated appropriately to the employees, vendors and customers.

Other factors may guide a company to a specific management system. For example, OSHA VPP involves an audit conducted by at least some government employees. Some companies do not want to be involved despite the separate nature of the OSHA VPP program, because it is a government program. On the other hand, at this writing, VPP applications and audits are free and that is not the case for other certifications. OHSAS 18001 is considered more of an international standard and can be used throughout the world. A multinational organization would likely prefer that standard for consistency purposes. ANSI Z-10 was written as a consensus standard and includes a wider variety of stakeholders, including organized labor. For a US company that is looking for a road map to improve health and safety management and not achieve certification, this might be preferable, particularly if it has an organized labor workforce.

Although these management systems are similar, there are technical differences. Both Z-10 and OHSAS 18001 are based on identifying and prioritizing risk and using an acceptable risk model, whereas VPP focuses on identification and control of hazards. VPP requires sites to have injury and illness frequency and severity metrics that are below industry average to remain certified. This means an employer with a small number of work hours often cannot retain VPP status if they have more than one OSHA-recordable injury in a year. The other models focus on continuous improvement. OHSAS 18001 and Z-10 include a requirement of regulatory compliance. VPP does not state this as a requirement although most of the auditors were formally trained as OSHA compliance staff and would likely address any concern.

Why OSHMs work

So why do occupational safety and health management systems work? The approach works because it changes the focus of safety and health from a series of tasks to a system. It requires management to commit to the long term and not a flavor of the month program. It gradually changes the responsibility for safety and health from the safety and health professionals to everyone in the organization, including front line employees. It changes the culture to one where safety is a value and not a priority when it is convenient. It changes the metrics from lagging ones to leading ones. It changes the conversation from zero injuries to acceptable risk.

Case Study: Implementation

L.L.Bean has had five sites in three different industry groups that achieved OSHA VPP status since 2007 and three sites remain VPP star status at this time. Another site is in the implementation stage and will be audited in 2012. The company has found that the benefits far exceed the advertised significant reduction in work-related injuries and illnesses. The culture now includes an engaged workforce which has translated the management systems approach into their everyday work lives.

So how did L.L.Bean successfully implement management systems? It started with the management commitment to use management systems to transform the safety and health program about ten years ago. At that time, OSHA VPP was chosen and has continued as the “road map” for subsequent company facilities. It gets easier with as new facilities are implemented. Despite that fact that the company has manufacturing, call centers, and distribution facilities in the program, the methodology has been similar. There are many approaches that may work. This is one approach that has been successful for this privately held company. Organized labor sites or those with different structures may need to modify this approach for their situation.

Step 1 - Develop a facility level implementation team

Each L.L.Bean site has had an implementation team including a small number of senior management along with one or more of the corporate safety staff (depending on the size of the facility). This team will provide direction for the implementation project. The team will identify frontline supervisors or frontline employees who are interested in becoming element owners. These individuals will then be appointed to lead the implementation of one or more elements.

Step 2 - Assign element owners

Note that the four VPP high level elements are broken down into 30 or more sub-elements. These are the “elements” that are assigned. For example, one of those elements is “management of change”; another is “preventive maintenance.” Element owners should be allowed to choose areas where they have interest or be assigned based on their skill set. The “preventive maintenance” element in this case is typically assigned to a facilities frontline supervisor. Each element owner becomes a champion of their area and an expert on the topic. Training for the element owners is provided by the corporate safety staff person. This includes an overview for the whole group and then individual information for each element owner regarding the topic, resources available, samples of materials from other L.L.Bean VPP sites, and the section of the OSHA audit tool that applies. The element owner develops a budget, includes employees to assist in their tasks, develops any required written program, and organizes any required training. All of this is done with support from the Implementation Team and a variety of internal and external resources, including OSHA and the Voluntary Protection Program Participants Association (VPPPA). L.L.Bean has developed a “responsibility and expectation” document that helps to guide the element owners. This structure is how the work gets done. Each element owner also will keep the implementation team informed on the status of the element.

The element owners and even the senior management on the implementation team often are initially overwhelmed by the magnitude of the tasks. One way the corporate safety staff has addressed this is by having the group list all of the safety related programs that they are aware already exist in the facility. These are each listed on post-it notes. Then the group is asked place those post-it notes on an art board that has the elements visually shown on it. The group then can see that many of the elements already exist and which ones need to be developed from scratch.

Most of the time, the deficient area is just documentation of something that is already happening. For example: The company may have a contractor safety process in place where contractors are not hired unless approved, but the approval process may not be documented in a policy or the information on each contractor may not be complete.

Step 3 - Plan a kick-off event

Once the Implementation team and the element owners are in place, a kickoff event can be used to inform all site employees of the overall plans in a creative way. The L.L.Bean sites have all done this differently, but every kick-off has been high-energy and creative. One team developed a DVD that introduced VPP and then included an audience participation game to engage the employees. Another had employees from other company VPP sites talk about their experience and how it changed the way they thought about their own safety and that of their co-workers. The key is to let the entire site population know what the expectations will be.

Step 4 - Perform baseline assessment

Once the structure is set up, the baseline assessment can be done. This will involve a facility tour, review of documentation, and review of injury/illness data. The issues found should be compared to the type of hazards that are typical in that industry. At L.L.Bean, this process is completed by the corporate safety staff and by the special government employees who have been through OSHA training to audit other company sites. For example, an SGE who works at one of the call centers will do a review of a distribution building. This gives these individuals broader experience and also allows the company to broaden the skillset beyond the limited corporate safety staff.

Step 5 - Implementation of elements

Over a period of months, the element owners work with their employee committees to complete the documentation or tasks or training needed. Throughout this process, the Implementation team and the broader employee population is kept involved and informed. At L.L.Bean, this has involved a variety of games and activities that make learning fun and keep the employees engaged.

There are a number of ways that employees at L.L.Bean have participated in the management systems process. Here are a few examples that could be used in any organization.

1. Production line redesigns to eliminate risk of injuries and increase thru-put and efficiency
2. Participation on audit teams
3. Prioritization of audit team findings
4. Evaluation of near miss reports
5. Development of safety training DVDs or online training
6. Leading stretch breaks
7. Providing first aid for employees and customers as part of a team
8. Developing safety and health messages and signage
9. Leading tours of the facility for outside parties

10. Developing or reviewing Standard Operating Procedures
11. Performing Job Hazard Analysis
12. Performing ergonomic assessments for new employees
13. Participation on teams to design new production line training
14. Participation on teams that provide suggestions on how to make life better at the facility

Step 6 - Arrange for a mock audit

After several months of implementation, the site may be ready for a mock audit. At L.L.Bean, this has been done by an SGE, but at most companies this could be done by corporate safety staff or safety staff from a different location. Another option is to request a visit by the OSHA compliance assistance program, an OSHA VPP manager, or safety personnel from another VPP company who are willing to provide mentoring. This is a friendly audit that allows for development of a list of recommendations that will allow the site to achieve the SMS. Then the site can assign responsibilities and complete the items.

Step 7 - Complete application

For OSHA VPP, an application needs to be completed in order to be approved for an audit. This application is prepared by the implementation team and typically reviewed by corporate safety. Once this is approved by OSHA, a date can be scheduled with OSHA. This is usually several months later depending on the OSHA workload and the site production schedule.

Step 8 - Final review

The Implementation Team will review all the elements and be sure all the information needed by the OSHA audit team is accessible and organized. At this time, employees are given final information about the audit process and the employee interviews.

Step 9 - OSHA audit

The audit is usually about a week long. It includes a facility walk through, interviews with employees and management, and review of documents. The OSHA team then completes an audit report. This is sent to the OSHA Regional office for approval and then to Washington for final approval. This is now taking months.

Step 10 – Celebration

Once the approval comes from OSHA in Washington, the site may have a recognition event. OSHA provides a VPP flag and plaque which is presented to the site by an OSHA official.

After approval, an annual report is required and the site must maintain a 3 year average of TCIR and DART that is below the industry average. Another OSHA audit will be required every 3 to 5 years.

Case Study: Results

The metrics tell an interesting tale. Like most safety and health management systems, OSHA VPP states that a major benefit of its system is the reduction of work-related injuries and illnesses. That is indeed what L.L.Bean found. The VPP sites had a 71% reduction in total case

incident rate (TCIR) over the last five years vs. a 39% reduction at the non-VPP sites. They also maintained that rate well below industry average and continued to improve the program elements over time. The VPP sites had a 38% reduction in severity as measured by the Days Away Restricted Transfer (DART) rate vs. a 10% increase in the non-VPP sites. Keep in mind, there is some halo effect from VPP at the other sites since some have started implementation of VPP and others have more management focus due to the company's VPP initiatives.

The bigger story is the change in culture. The company does a survey each year to measure the culture of the organization. This survey does have three safety and health questions but the majority of questions are more general. The company has found that employees at VPP sites rate all 34 questions on the survey an average of 8 points higher than the employees at non-VPP sites. This is consistent among all the company VPP sites despite the fact that they are in different industry groups. The key difference is considered to be the degree of employee engagement. Note that all the OSHMS require management commitment and employee involvement, including OSHA VPP. Although all the elements are important, engagement appears to be crucial to a successful implementation and long-term effectiveness of a management system.

In Conclusion

Safety and health management systems can be a powerful way to change the safety culture in your organization. Implementation is not as complicated as it may seem at first glance. Using a comprehensive safety and health program that identifies and eliminates risks will significantly reduce injuries, illnesses, and deaths in the workplace. The amazing part is that it can also improve the level of management commitment and employee engagement in an organization. This company found that the overall culture and morale improved, not just safety and health.

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