Risk Assessment: Where to Begin

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Introduction

Tragedy struck. One of our maintenance mechanics was fatally injured by a burst steam pipe. He planned to repair a steam trap and rapidly turned off a reducer valve at the end of the 8 inch steam line. A phenomena known as 'water hammer' burst the 3 inch thick cast iron reducer flange and the filled the basement and building with steam. He was cooked alive. He died a few hours later leaving his young family alone.

While waiting for the Emergency Medical Services he commented to a co-worker that he screwed up. His comment, repeated many times during the investigation, was instrumental in most everyone reaching the same conclusion. The cause of this accident was an unsafe act on part of the employee. He failed to Lock Out Tag Out (LOTO) the local power utility's steam line.

Under the federal Occupation Safety and Health Administration (OSHA) the State of Michigan is a state plan state. Following the accident, Michigan OSHA (MIOSHA) completed their investigation and the department implemented the classical abatements. A formal LOTO program was written, training for everyone on steam pipe hazards and risks was conducted and a fine was paid. The department, however, took one further step that becomes the focus of this paper.

During the investigation, property management was asked if similar steam pipe configurations existed across the state in any of their managed buildings. Management in turn asked their maintenance staff to inspect all of their facilities and alter similar pipe configurations. Although no similar configurations were found, their responses hinted at a process that resulted in this safety system and risk assessment approach.

This paper takes the genesis of an idea that began with a simple question that can resolve the often elusive uncertainty of 'where to begin'. It focuses on the process of creating and implementing a systematic approach to manage safety. By responding to the question "were there other similar steam pipe configurations," the employees, managers and the director took the first step toward creating a systematic approach to safety.

The death of their co-worker committed employees and management to this simple workplace hazard analysis. Employees were involved in finding and repairing an area where they could be hurt and injuries could occur. Moreover, management began to look beyond the most proximate cause of this accident by giving employees the ability to eliminate the hazard by saying, "If you find them, fix them." This simple task engaged employees in their own safety and initiated a management process to manage safety. This atmosphere provided an opening to introduce a comprehensive Safety and Health (S&H) Management System approach that can be effective when applied to changing the way safety is done.

The state contracted with Marsh Risk Consulting, Richard McLonis, Vice President, CIH, CSP, CIE. Our plan was to develop and implement a comprehensive continuous improvement S&H System in state government that identified and reduced potential work-related injuries and illnesses. Together we crafted a plan and approach and this is an overview of the process and the steps we went through while marketing and implementing our techniques. This paper is dedicated to the death of a co-worker.

Overcoming Hurdles

Building buy-in necessitates overcoming a number of hurdles in any organization. There has to be enough buy-in and commitment by key people to ensure the likelihood of successfully completing the assessment.

Our first step was to meet with the Safety & Health Coordinator (S&HC) of each department. We gained an insight into the culture of their organization and learned how the department managed safety. We verified the type of tasks that were performed and to what extent there were formal safe work practices and safety programs. We also were told who were the key decision makers and how would they react to a new initiative. The later proved very useful in opening doors to the organization.

Within state government organization, each department has a unique mission, role and responsibility. These roles cover a wide range of job tasks, hazards and risks. Enforcing the law, housing and caring for inmates and patients, maintaining roads, interstate highways and physical plant infrastructures, monitoring hazardous and toxic substances in the environment, operating biological and toxicological laboratories, regulating industry and agriculture, managing state parks and working in office environments are just a few of the activities a state government performs every day. These roles form the culture of the organization.

Each work environment and background creates its own culture or way of doing safety. The culture is often expressed in the following types of statements:

- We are *the* subject matter experts.
- We know how to do safety.
- We do hazardous jobs.
- If one does do not want to take on these risks, they should not take this job.
- Safety is for labor- and trade-type jobs.
- We work in an office and do not have serious accidents.
- Injuries are a cost of doing business.
- What can you teach us about doing our jobs safely.
- We have all the required safety programs, have conducted the necessary training and purchased the required personal protective equipment (PPE).
- That's the way we've always done it around here.

Altering this culture by changing the way safety is done or managed is a significant challenge.

Another hurdle is in the current economy; there are the fiscal restraints on resources and the need to do more with less staffing. It is no secret that the state of Michigan is currently undergoing dramatic changes to its economy. The economy has lead to unprecedented loss of revenue accompanied by the increase in the need for services.

Our state departments have responded accordingly with consolidation and across the board there have been staff cutbacks. Safety has not been exempted. Typically, there is one S&HC per state department. About half of the S&HCs work in human resources and the other half are in infrastructure or physical plant management. Only a couple of S&HCs have safety as their primary function. Moreover, most assigned to safety have primary responsibilities, backgrounds, interests and training and in other fields. Finally, most wear many hats and safety usually plays a minor role in their day to day activities. Reducing their resistance to another project under these conditions requires a process that distributes the activities and responsibilities across the board and does not add more work to any one individual. Adding more work to individuals is prohibitive.

Being reactive is another norm of a typical organization's safety culture. A serious accident happens, a new standard is passed or a citation is issued and the organization responds with what I described as "Random Acts of Safety." This is common form of crisis management. The organization may hire an outside safety consultant and often purchases new or additional personal protective equipment. New or refresher required training is conducted, the required written safety program is updated or drafted or the organization may implement new safe work practices to meet the standard and respond to the citation. The crisis has been resolved; now let's get back to business as usual. The real challenge is to move the organization away from being reactive to managing safety by design. Ours was a project to practice "Random Acts of Safety" less.

For the safety professional, these conditions are hardly unusual to encounter. Our experience shows that for most organizations, safety cultures are resistant to change. Safety's challenge is to create a system or approach that spreads the responsibilities and tasks and does not distract management's attention away from their respective mission.

Reflecting on our experiences we believe there are three phases or components that are necessary to conduct a risk assessment.

- Building Buy-In and Commitment
- Assessing Risks
- Risk Assessment Reports

Building Buy-In and Commitment

Community Health, Corrections and MIOSHA were amongst the first pilot programs. We were presenting a pro-active safety plan and needed to be sensitive to the culture of each department. Remembering that these departments are the subject experts in their field we began with a promotion and commitment phase.

We met with the senior directors and the executive management team of the selected departments. One should be cautioned to be brief and limit your presentation to fifteen minutes. Our experience revealed that we had less than 15 minutes of executive management's attention before we would lose their interest with a desire to more on to other pressing issues. It was our challenge to present our goal to reduce random acts of safety by becoming be proactive, outline the process, provide samples of the work the product and describe what was expected of them.

Overcoming a resistance to becoming involved in a department's operations was the primary challenge. During the meeting it was critical to advise management that we are not there to tell them how to manage or conduct their business. We were successful in easing their apprehension by stating that our purpose is not to tell them how to do their jobs but only to coach them on how to manage safety. We found that by acknowledging their expertise, they would in turn recognize our expertise in managing safety. We also learned government operations have heighten sense of being audited and alleviated these concerns by assuring that every step of the process would be supervised by a department employee and all work products would be treated as confidential drafts before any report would be published.

Our preparation did not let us down. During one of our first presentations the director left after 15 minutes, but not before telling us to avoid inquiring into the staffing issues of the corrections officers. Otherwise we were permitted to go ahead.

The state is a unionized environment. The unions have contractual rights to participate in governmental inspections from MIOSHA, Public Health, and so on. We met with unions and assured them the approach was not an inspection but was designed to increase the safety of their members. The process was designed to involve those who knew the potential hazards and exposures in performing their jobs.

Assessing Risks

As we know, everything in safety flows from knowing the hazards and risks encountered throughout the workplace. This is a basic risk management principle. Our goal is to create a complete risk profile or picture of each department by providing each with a universal list of all the hazards in the workplace ranked their employees.

The next step in the safety system approach is to identify and assess risks. This is the data collection phase. The risk assessment survey and process requires the following four steps:

- Customizing the Risk Assessment Survey or list of hazards and risks for each department (see Figure 1, Sample Risk Assessment).
- Distributing the survey to or interviewing selected individuals performing a representative sampling of the jobs performed throughout the organization.
- Conducting a physical tour of the work areas. Observing employees perform a representative sample of tasks or jobs.
- Ranking the risks.

One of the main decisions that had to be made was how to describe all the potential health and safety risks. We decided to use MIOSHA standards as the source for our Risk Assessment Survey because the regulations are designed to address and control known safety and health risks or causes of injuries and illnesses. We also thought it would be useful to the organization to show employees that the regulations play an integral part in addressing risks in their workplace. Employees, we believed would gain insight into how the regulations can help them to safety perform their jobs.

Consequently, our key challenge was to label the risks in a way that the users would understand the risk that they were assessing. An employee could only respond to the survey if they understood what was covered under the standard and if they knew the types of hazards and tasks the standard was designed to avoid and protect. The problem we found was that we could not rely on the standard titles because MIOSHA titles were not always clearly descriptive of the hazards, exposures or of the types of work performed. Therefore, we relabeled the hazards to be more descriptive of the standard, provided examples of the work performed under the standard and some of the salient features or requirements of the standard.

The important outcome of our discussions with the S&HC is a screened list of the hazards of the tasks performed by department employees. The current statewide survey has over 140 hazards and risks. The first step to customize the survey is to permit the S&HC to screen out the standards that are clearly not applicable to the work performed in the department.

Nam											
Ager	tcy/Division: Date: The objective of the survey is to identify and rank the severity of each type of hazard or risk you encounter. The survey engages you i about the hazards and risks you encounter while performing your job.	n your own safety by a	asking you to think	and tell us							
	This survey is department wide. Consequently many of the hazards will not be applicable to your job. If you do not or rarely if ever encounter the hazard or risk mark the box as N/A (Not Applicable) or skip over the hazard and leave the answer blank. Please evaluate only your job activities or expected tasks.										
	This hazard survey is not intended to be complex or time-consuming, and there are no trick questions. Likewise, it is not necessary to read into or debate the meaning of each term or question or become indecisive because the frequency the hazard or risk is encountered or severity of the injury relies on "it depends" type questions.										
	Use your own judgment and simply make your best estimate on average of how frequently you might expect to encounter the hazard, what is the probability of a personal injury accident occurring then estimate the likely severity or consequence of the injury. Finally if an injury were to happen, tell us in the example box the type of injury you might expect.										
	We will take great care to protect the confidentiality of the information given and survey results will never be in a form that reveals your identity.										
	How to read the risk assessment hazard survey: Answer the questions by entering your number selection in the double framed boxes and write examples of the hazards, the nature or type of injury/illness, or comments in the example comments section. FYI- If you are unfamiliar with the risk or hazard, a brief description of each risk or standard is provided. If you do not or rarely if ever encounter the hazard or risk mark the box as N/A (Not Applicable) or skip over the hazard and leave the answer blank. For each of these hazards, risks or the required program ask yourself these (3) basic questions.	Frequency Numbers: 5: Daily, 50 or more times per year, or 100% of the time. 4: Weekly, 12-50X per year, or 80% 3: Monthly, 6-12X per year, or 60% 2: 3-6 X a year, or 40% 1: 0-2 X a year, or 0-20%									
	1. On average, how frequently will I encounter the hazard, risk or how frequently may the required program be needed?	Probability Number									
	 What is the probability of a personal accident occurring? If an accident were to occur, what is your estimate of the likely severity of the injury? 	4: Likely 3: Probably 2: Possibly									
	In the Examples/Comments box, please write: 1. Where you might expect to encounter the risk, hazard or an accident (e.g., office, laboratory, patient room, cell, highway, mechanical room, storeroom, roof, tunnel, sidewalk, car, etc.)	1: Unlikely									
	 The type of injury or illness you might expect if an accident, injury or illness were to occur (e.g., bite, bruise, burn, cut/laceration, dermatitis, rash, respiratory, infectious disease, electric shock, twisted ankle, foreign body in eye, fracture, hearing loss, repetitive motion injury, sorain/strain, etc.) 	Severity Numbers:									
	3. What is the likely or most common type of injury, if an accident were to occur?	 5: Fatality - Catastr 4: Permanent Disa 									
	Please note your most serious hazard and any additional or missed hazards can at the end of the survey.	3: Lost Days From Work 2: Minor Injury - First Aid 1: No apparent Injury									
	After you get into the rhythm of answering the above questions for each of the risks, the survey will flow easily.	Francisco Deskabilitar Desca									
	Hazard, Risk, Task or Standard Topic Encountered	Frequency	Probability	Severity							
1	Bloodborne Infectious Diseases and Sharps: Bloodborne pathogens and other potentially interclosus materials (BBP) How frequently do you perform tasks that result with blood coming into direct contact with you or your clothing? (e.g. splash or splatter into your eyes, nose, mouth or non-intact skin) What is the probability? What is the severity of the infection that might occur?										
	A formal written exposure control plan (ECP) is required and includes; identification of tasks and employees exposed to BBPs; training personal protective equipment (PPE); to know the symptoms of BBP diseases; info on Hep B vaccine; info on the use, handling and di and post exposure evaluations; and universal precaution kits must be readily available & replenished. FYI. Sweat, tears, nasal secreti Bloodborne Pathogens.	sposal of PPE; what t	o do in the event o	f an exposure							
	Give examples of likely types of injuries or illnesses, location of hazards and comments: Is there a sharps evaluation section in your E the type of illness or disease to result from being exposed?	BID program and is th	ere a Sharps Injury	/ Log? What is							
2	Hazard Communication: How frequently do you encounter hazardous chemicals, liquids, fluids, sprays, metal fumes, powders, steam, substances, toners, cleaning products, etc? What is the probability of an accident? What is its severity? What is the most likely type of injury? (write below)										
	The Hazard Communication standard commonly known as the Right to Know standard requires a formal written program; training to a requires that you know what to do in an emergency and know the protections from and the physical and health hazards of the chemica requires an inventory of all chemicals and that you be able to tell al MOSHA inspector where the Material Safety Data Sheets (MSDS) containers, pipes, etc. containing hazardous substances to be labeled.	Is and substances that	at you may encour	ter; it also							
	What is the most likely type of injury? What is the most hazardous chemical you encounter? What chemical causes you the most con	cern?									

Figure 1. Sample Risk Assessment Survey Page (Source: Michigan Department of XYZ)

Another critical decision is to decide whether to distribute the survey to all employees or interview a limited number of individuals performing a representative sample of jobs at representative workplaces. Our purpose is not to evaluate every person performing every job or to identify the location of each and every hazard, but to evaluate every kind of job.

The next step was that we had to return to the building buy-in and commitment phase. This time we met with the local management staff and the safety committee members to explain the

process. We provide each of the pilot sites with a copy of the screened questionnaire before the walk throughs and interviews. The purpose was to again alleviate any apprehensions that this was an audit. It gave the site an opportunity to prepare and select the employees to be interviewed. It also gave us the chance to see how the tool works with those unfamiliar with MIOSHA regulations. This initial visit to the local site allowed us to familiarize ourselves with the jobs and site.

The purpose of the tours and interviews was to make sure we had a complete picture of all the tasks performed by employees and all the hazards encountered while performing their jobs. We scheduled the physical tours or walk through of the facility or site and held interviews with the selected representative sample of employees. We found in some cases that employees were performing jobs not typically expected from their job classification e.g., snow plowing by electricians, pesticide spraying by painters. We found that employees were unfamiliar with the standards covering the performance of some tasks. Many asked safety and standard related questions regarding the performance of specific tasks and identified issues which needed immediate attention before incidents occurred.

The final step of the date collection phase of the risk assessment is ranking the risks. Safety is a huge undertaking and tackling all the concerns at once is overwhelming. Ranking the risk provides management and the safety teams the ability to prioritize their efforts and safety expenditures. A fully functional risk assessment should break down the safety concerns into manageable parts. In our tool we ask the employees the following three questions regarding the frequency, probability and severity of each hazard they encounter.

- 1. On average, how frequently will I encounter the hazard, risk or how frequently may the required program be needed?
- 2. What is the probability of a personal accident occurring?
- 3. If an accident were to occur, what is your estimate of the likely severity of the injury?

The responses to these questions are ranked (see Table 1).

Frequency Selections:	Probability Selections:	Severity Selections:			
5: Daily, 50 or more times per year, or 100% of the time.		5: Fatality - Catastrophic			
4: Weekly, 12-50X per year, or 80%	4: Likely	4: Permanent Disability			
3 : Monthly, 6-12X per year, or 60%	3: Probably	3: Lost Days From Work			
2 : 3-6 X a year, or 40%	2: Possibly	2: Minor Injury - First Aid			
1: 0-2 X a year, or 0 - 20%	1: Unlikely	1: No apparent Injury			

 Table 1. Frequency Probability and Severity Selections

Risk Assessment Reports

At the conclusion off the data collection phase a package of reports is drafted for review. The reports are the Risk Assessment, the Average Hazard Ranking, Training PPE and Certification Summary, Specific Hazard, Injury and Illness and Comments Summary, a Training Matrix and a Required OSHA Written Programs.

Each individual's job or task that is assessed results in a Risk Assessment report see Figure 2). All the information that is collected is found on this report. Its contents include:

- Organizational and job classification is identified on the report.
- The hazard risk task or standard encountered ranked by the frequency, probability and severity risk as perceived by the individual. The ranking is calculated by adding the values of each of the three selections.
- A description of the specific hazard and likely injury.
- Whether a formal OSHA written program, license or certification, or a medical evaluation or fit testing is required.
- Basic training requirements are identified.
- Frequency of training.
- The type of personal protective that is required and worn.
- Comments.



Employee Health Management - MI Safety Safety and Health System Risk Assessment

Number	Number	Number				
5: Daily 4: Weekly 3: Monthly 2: 3-6 X a year 1: 0-2 X a year	4: Likely 3. Probably 2: Possibly 1: Unlikely	5: Fatality 4: Permanent 3: Lost days from work 2: Minor injury First Aid 1: No apparent injury				

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Risk Ass	sessment			Date of Asse	ssment	8/3	2005		Risk Assessment ID 60	
Department	MANAGEMENT & BUDO	GET		City		LA	NSING		Assessor	STE VE MONET
Bureau Office	OFFICE OF THE STATE	EMPLOY	ER	Addr	ess	400	S PINE ST		Employee	MONET, STEVE
Division Region	EMPLOYEE HEALTH M	ANAGEME	NT	Work	Locatio	on CA	PITOLCOMMON	S CENTER	Job Class	DEPARTMENTAL SPECIALIST
Unit	MI- SAFETY			Spec	ialty				Agency	OFFICE OF THE STATE EMPLOYER
Hazard - Risk - 1 Encountered Likely Hazard ar	Task or Standard nd Injury/Allness	Freq	Severity	Probability	Rank	Writte Prog. Req'd	n 1. Training I 2. License 3. Medical E	100 C	Employe	Protective Equipment (PPE) ve Comments
Walking - Slips, Tri	ps and Falls	5	2	4	11		1. Awareness	PPE.	Onsite - slip & puncture resis	stant steel toe footwear
Slips, trips, falls at (grease, oils, etc)	construction sites and cont	taminated f	loors, stair	rs (water,	20040	59,224	2. 3. Co	omments:		
Avian Influenza Cat	tegory II Employees	3	1	5	9		1. 2 yrs	PPE.	- 3	
Birds							2. 3. Ci	omments:		
Emergencies		5	3	1	9	V	1. Annual Refresh 2. 3. Co	omments:		
Fire Exits		5	3	1	9		1. Annual Refrest 2. 3. Co	ner PPE:		
Ergonomic Risks		5	2	1	8		1. Awareness 2. 3. Co	PPE:		
Falls from working :	surfaces 4 feet or higher	2	4	2	8		1. Annual Refresh 2. 3. Co	ner PPE: omments:		

Figure 2. Risk Assessment Report

An average hazard ranking report is provided (see Figure 3). From our experience the hazard ranking report has become one the most useful of the package. This report is used to select which of the hazards should be tackled first. The hazards are listed according to the average risk ranking as reported by the participants to the survey. This report is a handy reference or guide for the most serious hazards. It has been used for continuous improvement activities and to assess where the teams are in addressing the hazards in the workplace.



Employee Health Management - MI Safety Safety and Health System Risk Assessment

Summary: Average Hazard Ranking by Department

DEPARTMENT: AGRICULTURE

Hazard - Risk - Task or Standard Encountered	Employees	AvgOfRanking
Driving	267	9
Ergonomic Risks	295	9
Additional Hazards Missed - See reports.	23	8
Vermin Infestations	8	8
Signs, Signals, Tags & Barricades	68	8
Walking - Slips, Trips and Falls	309	8
Lockout/Tagout of Energy Sources	51	7
Hazard Communication	279	7
Working alone	260	7
Flammable & Combustible Liquids	121	7
Hazards associated with proximity to machinery & equipment	157	7
0 SHA Regulated Carcinogens	50	7
Personal Protective Equipment	216	7
Electrical Shock	157	7
Aircontaminants	172	7
Safety and Health System and Accident Prevention Program	299	7
Baking & Bakery Equipment	66	7
Animal and Insect Bites and Poisonous Plants	175	7
Belts, Pulleys, Gears & Sprockets	94	7
Laboratories	71	7
Eye Wash and Showers	129	7
Pesticides, Herbicides	125	7
Forklifts	90	7

Figure 3. Sample Hazard Ranking Report

Another useful report is the Training Matrix (see Figure 4). Another reactive practice or random act of safety is to conduct blanket training. For example after a citation is received a costly practice of conducting training is for everyone is ordered. Instead this matrix allows for a quick assessment of the training needs of each classification. The risk assessment provides a training matrix for each of the job classifications as well as the frequency of training for each hazard encountered. It also provides the ability to visualize and to group trainings into sessions to reduce the time spent away from production. Moreover, many of the trainings can be completed in short period of time and do not require hours away from work. Also included in the risk assessment is a list of the all OSHA or organization required trainings.

Risk, Hazard or Standard Encountered Training Description	1								
	BLIND REHABILITATION INSTRUCTOR	COOK	DEPARTMENTAL MANAGER	DIVISION ADMINISTRATOR	DOMESTIC SERVICES AIDE	EXECUTIVE SECRETARY	MAINTENANCE MECHANIC	MCB - DRIVER	REGISTERED NURSE
Aerial Work Platforms Annual Refreshe		1	1	1	1	1	x		Τ
Animal and Insect Bites and Poisonous Plants Awareness				x	x			x	x
Asbestos Annual Refreshe							x		
Belts, Pulleys, Gears & Sprockets Awareness							x		+
Bloodborne Infectious Diseases and Sharps (BID) Annual Refreshe					х		x		х
Biooaborne infectious Diseases and Sharp's (BD) Annual Refreshe	×				Â		Â		^
Collection and disposal of hazardous waste Annual Refreshe	7						x		
Compressed air receivers Awarenes			1				х		1
Compressed Gases & Systems Awareness		1	1	1	1	1	X	х	х
Confined Spaces Annual Refreshe							X	L Â	
Contractor Safety Annual Refreshe							X		1
Driving Awareness	_	1	х	х	х	х	X	х	х
Electrical Safe Work Practices Awareness			Â	<u>^</u>	<u>^</u>		X	L Â	
Electrical Shock Awareness	_	х	1		х	х	X		х
Emergencies Annua		X	х	х	X	X	Â	х	X
Ergonomic Risks Awareness			X	X	<u>^</u>	X		X	X
Falls General Awareness			Â	<u>^</u>	х		х	X	X

Figure 4. Sample Training Matrix

Summary

MI-Safety's Safety and Health System's Risk Assessment answers the question "Where to Begin" to implement a safety system approach. This safety system approach engages employees in their own safety and provides management a systematic method to target injuries and prioritize expenditures. The essentials to this approach are a risk assessment process, a model S&H System, written safe work practices and employee involvement or joint labor management safety teams.

The risk assessment process gives employees way to identify safety issues in a methodical way. It is also a methodical way in which management can prioritize the safety efforts and corrective action. S&H practioners learn what needs to be done. Moreover, employees are involved in the process.

In addition to the ways we have used the data collected in the risk assessment to-date, we see other opportunities for its use. We can compare the requirements identified in the summary sheet for each risk, to what is in place currently in the department or location assessed. Based on this 'gap analysis', steps can be taken to improve the existing safety system. Because we have integrated a ranking system into our tool, which provides a number approximating the level of risk, we are able to sort the risks from highest to lowest to select our highest priorities. We can use this as a tool to help us choose which items to work on first. We all recognize in the safety profession, few of us have the luxury of too little to do or being over-staffed. We are faced with constantly re-prioritizing our daily activities because there is more than enough to do and never

enough time to do it all. This assessment can be used to provide focus to the activities of the safety team. It provides them with a list of things that need to be addressed and can provide structure to meetings that might otherwise deteriorate in to gripe sessions.

The more you involve your employees in this risk assessment and follow-up process, the more you will find they take ownership of the safety and health program in your organization, especially if they are involved in both the identification of the risks and the abatement of those risks. Employees recognize that not all hazards eliminated can be eliminated or working conditions can be changed at once. They will however support delays if there is a participatory process in place and safety controls are on management's radar.