

Safety and Health Management Systems



Presented by the Public Education Section

9/26/2022 - 04

Oregon OSHA Mission Statement

To advance and improve workplace safety and health for all workers in Oregon.

Consultative Services

- Offers no-cost on-site safety and health assistance to help Oregon employers recognize and correct safety and health problems in their workplaces.
- Provides consultations in the areas of safety, industrial hygiene, ergonomics, occupational safety and health programs, new-business assistance, the Safety and Health Achievement Recognition Program (SHARP), and the Voluntary Protection Program (VPP).

Enforcement

- Offers pre-job conferences for mobile employers in industries such as logging and construction.
- Provides abatement assistance to employers who have received citations and provides compliance and technical assistance by phone.
- Inspects places of employment for occupational safety and health rule violations and investigates workplace safety and health complaints and accidents.

Appeals, Informal Conferences

- Provides the opportunity for employers to hold informal meetings with Oregon OSHA on workplace safety and health concerns.
- Discusses Oregon OSHA's requirements and clarifies workplace safety or health violations.
- Discusses abatement dates and negotiates settlement agreements to resolve disputed citations.

Standards & Technical Resources

- Develops, interprets, and provides technical advice on safety and health standards.
- Provides copies of all Oregon OSHA occupational safety and health standards.
- Publishes booklets, pamphlets, and other materials to assist in the implementation of safety and health standards and programs.
- Operates a Resource Center containing books, topical files, technical periodicals, a video and film lending library, and more than 200 databases.

Public Education & Conferences

- Conducts conferences, seminars, workshops, and rule forums.
- Presents many workshops that introduce managers, supervisors, safety committee members, and others to occupational safety and health requirements, technical programs, and safety and health management concepts.

Additional Public Education Services

- Safety for Small Business workshops
- Interactive Internet courses
- On-site training requests
- Access workshop materials
- Spanish training aids
- Training and Education Grants
- Continuing Education Units/Credit Hours

For more information on Public Education services, please call (888) 292-5247 Option 2

Portland Field Office	(503) 229-5910
Salem Field Office	(503) 378-3274
Eugene Field Office	(541) 686-7562
Medford Field Office	(541) 776-6030
Bend Field Office	(541) 388-6066
Pendleton Field Office	(541) 276-9175
Salem Central Office	(503) 378-3272
(Or Toll-Free)	(800) 922-2689



Website: osha.oregon.gov



Welcome!

Safety and Health Management System Principles

Understanding the big picture is critical to successfully managing a company's safety and health management system. Peter Drucker, a well-known management consultant said it this way, "The first duty of business is to survive and the guiding principle of business economics is not the maximization of profit, but the avoidance of loss."

The primary emphasis of the workshop is to introduce you to the major elements within the Oregon OSHA's model for managing safety and health in the workplace. We'll take a look at the design factors of each element and the processes that help to ensure effective performance of the safety and health management system.


To get the most out of this course, it's important that everyone freely share their knowledge and experience with the class, so please don't hesitate.



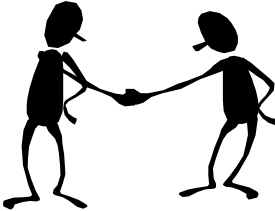
Goals

1. Gain a greater understanding of safety management systems.
2. Be familiar with Oregon OSHA's seven core elements of a safety management system.
3. Be able to discuss the key processes within each of the seven core elements.

Form Groups



Introductions
Elect a group leader
Select a spokesperson
Recorders



Please Note: This material, or any other material used to inform employers of compliance requirements of Oregon OSHA standards through simplification of the regulations should not be considered a substitute for any provisions of the Oregon Safe Employment Act or for any standards issued by Oregon OSHA. The information in workbook is intended for classroom use only.



What's inside?



The Oregon OSHA Safety & Health Management System Model

Critical Components and Characteristics

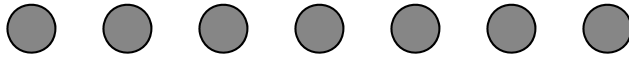
1. **Management Leadership** - Management of your company shows, in word and actions, their commitment to your safety and health program.
2. **Worker Participation** - Employees are encouraged to, and actively participate in, the development and implementation of your safety and health program.
3. **Hazard Identification and Assessment** - Your company has systems for regularly scheduled self-inspections and for investigating and reviewing all workplace near miss incidents, accidents, injuries and illnesses to identify hazards.
4. **Hazard Prevention and Control** - There is a procedure at your company to effectively correct and control all hazards identified.
5. **Education & Training** - There is a comprehensive program of safety and health training for all employees (including management)
6. **Program Evaluation and Improvement** - The company has a system for evaluating and improving the overall safety and health program and does so on a regular basis
7. **Coordination and Communication**- The company has a system for coordinating and communicating safety and health information, both internally (between shifts and departments), as well as externally (for host employers, contractors and temporary workers).



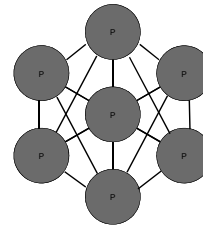
The basics: *What's a safety and health management system?*

What is the difference between a "program" and a "system"?

A program is independent



A system is interdependent



All systems have structure, inputs, processes and outputs



Structure

Safety Manager - The primary consultant on Oregon OSHA mandated programs. May have overall responsibility for safety management.

Safety Engineer - Consults on the use of engineering controls to eliminate or reduce hazards in the workplace.

Human Resources Coordinator - Consults on human resource programs that impact the safety and health of employees.

Safety Committee - Identifies, analyzes, and evaluates safety and health programs.

The Safety Management System

A system may be thought of as an orderly arrangement of interdependent activities and related procedures which implement and facilitate the performance of a major activity within an organization. (American Society of Safety Engineers, Dictionary of Terms)

All systems have structure, inputs, processes and outputs

We know Syssie the cow as structure, but what are her inputs, processes, outputs?

Inputs – Resources

Programs	Structure
People	Materials
Facilities	Time
Equipment	Money



Inputs _____
 Processes _____
 Outputs _____

Processes – System Design

1. **Commitment** - leading, following, managing, planning, funding
2. **Accountability** – role, responsibility, discipline
3. **Involvement** - safety committees, suggestions, recognizing/rewarding
4. **Identification** - inspections, audits, observation, surveys, interviews
5. **Analysis** – incidents, accidents, tasks, programs, system
6. **Controls** - engineering, management, PPE, interim measures, maintenance
7. **Education** - orientation, instruction, training, personal experience
8. **Evaluation** - judging effectiveness of conditions, behaviors, systems, results
9. **Improvement** - change management, design, implementation

Outputs - Performance

Safe/Unsafe conditions, behaviors
 Many/Few incidents and accidents
 High/Low accident costs
 High/Low productivity, morale, trust

 Feedback

Where do we look to evaluate how well the management system is working?

What are the most immediate and observable outputs of a safety management system? _____

SHMS Components and Elements

All safety and health management systems will have 3 major components and will have various elements indicating the key drivers.

A Safety and Health Management System (SHMS) is really a system that allows you to manage multiple systems. It can give you a methodical, structured or established approach to managing the multiple systems, doctrines, policies, procedures, programs and policies that are in place to help manage all aspects of safety and health in a workplace.



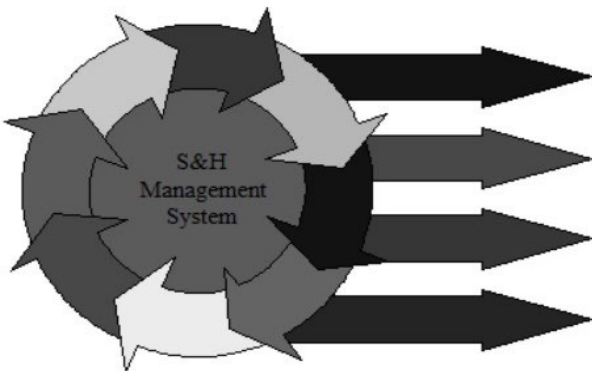
Intended to explain the arrangement or working of a whole

Within the SHMS, there are 3 major components: a Cultural Component, (the way we do things here), an Operational Component (finding hazards and fixing hazards), and A Managerial Component (managing the work that we do).

Cultural: _____

Operational: _____

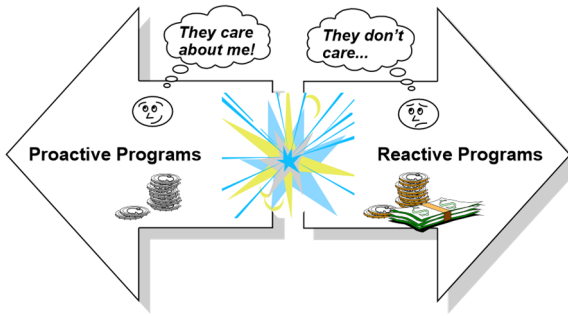
Managerial: _____



ELEMENTS SHOULD INCLUDE:

- Management Leadership
- Worker Participation
- Hazard Identification and Assessment
- Hazard Prevention and Control
- Safety Education and Training
- Program Evaluation and Improvement
- Communication and Coordination

Proactive Vs. Reactive Approach to Safety & Health Management



What's a proactive approach to safety?

This approach emphasizes doing everything management can to anticipate and prevent accidents.

What's a reactive approach to safety?

This approach emphasizes doing everything management must do to limit losses after an accident occurs.

Proactive Approach - Goal: Prevent future injuries

Which safety programs and activities are emphasized?

Reactive Approach - Goal: Reduce injury costs

Which safety programs and activities are emphasized?

"In organizations, clients for the services provided by staff people are called line managers. *Line managers* have to labor under the advice of staff groups, whether they like it or not. But any staff function, by definition, has no direct authority over anything but its own time, its own internal staff, and the nature of the service it offers." Peter Block, Flawless Consulting

For more on this topic take Oregon OSHA Workshops: Safety Leadership, and Safety and the Supervisor.



ELEMENT 1. Management Leadership

ORS 654.010 Employers to furnish safe place of employment. Every employer shall...

- furnish employment and a place of employment which are safe and healthful for employees therein, and shall furnish and use such devices and safeguards, and
- adopt and use such practices, means, methods, operations and processes as are reasonably necessary to render such employment and place of employment safe and healthful, and
- do every other thing reasonably necessary to protect the life, safety and health of such employees.

It takes a little “TMC”

Top **M**anagement **C**ommitment is defined by how much **T**ime, **M**oney, and **C**oncern the employer gives to safety. The degree to which managers demonstrate TMC indicates their understanding of the benefits derived from an effective safety management system.

What motivates management to make a commitment to safety?

Employers are motivated to make a commitment to safety to fulfill social, fiscal, and legal obligations. The obligation considered most important influences the level of management commitment.

To fulfill the social obligation

- We must save lives
- Do whatever it takes



This is the most effective strategy!

To fulfill the fiscal obligation

- We must save money
- Do what we have to



This is a better strategy

To fulfill the legal obligation

- We must stay out of trouble
- Do only what we have to



This is the least effective strategy

How can you tell which obligation is driving decisions about safety?

Leadership will shape a tough-caring safety culture

The blue-collar definition of culture is, "the way things are around here." An effective safety culture includes a balanced use of positive and negative reinforcement.

Positive Reinforcement. When effective, positive reinforcement increases required and voluntary behaviors.



- Examples: Pay, benefits, recognition, reward
- Employees perform to receive promised positive consequences
- Employees may perform far beyond minimum standards to be rewarded
- Builds trust between labor and management
- Leads to higher levels of excellence
- What do you hear from employees?
 - ✓ “If I report a hazard, I know my supervisor will thank me.”
 - ✓ “If I make some good suggestions, I'll have a better chance for that pay raise.”

Negative Reinforcement When effective, negative reinforcement increases required behaviors only.



- Examples: fines, transfers, discipline, punishment, termination
- Employees perform to avoid promised negative consequences - fear based
- Employees perform to minimum standard - just enough to stay out of trouble
- Builds fear of management
- Leads to higher levels of compliance only
- What do you hear from employees?
 - ✓ “If I wear that eye protection, my boss won't write me up.”
 - ✓ “If I don't use fall protection, I'll get fired.”

Extinction - Desired behaviors are "extinguished" when we do not acknowledge employees.



- Results in no expectation of positive consequences
- Employee is ignored - no positive relationship with management is established
- Initially, the employee will work harder in the hope of receiving a positive consequence, then gives up because they never get recognized
- What do you hear from employees?
 - ✓ “It doesn't matter how hard I work around here.”
 - ✓ “If management doesn't care...why should I?”

What do accidents cost your company?

Unseen costs can sink the ship!



Direct Costs

Insured

“Just the tip of the iceberg”

Average Cost to close a claim in Oregon = \$13,107

1. Workers' compensation premiums
2. Miscellaneous medical expenses

Indirect Costs

Hidden - Uninsured - Out of pocket

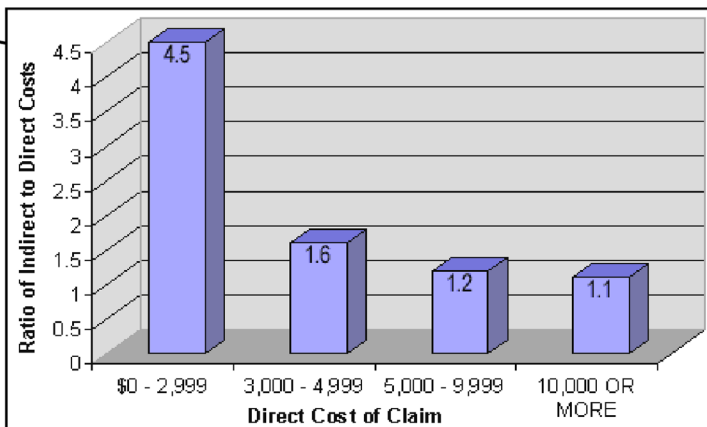
Average indirect costs in Oregon = \$30,000

A few examples:

1. Cost of wages paid for time lost by other non-injured workers
2. Net cost to repair, replace, or straighten up material or damaged equipment
3. Extra cost due to overtime work
4. Cost of wages paid for supervisor activities related to employee injuries
5. Wage cost due to decreased output of injured workers after returning to work
6. Cost-of-learning period of new worker
7. Uninsured medical costs
8. Cost of time to investigate accidents, process claims
9. Miscellaneous unusual costs. (over 100 other items)

Ref: Grimaldi and Simons, *Safety Management*, ASSE Pub.

Average total injury costs in Oregon = \$43,000



Studies show that the ratio of indirect costs to direct costs varies widely, from a high of 20:1 to a low of 1:1. OSHA's approach is shown here and says that the lower the direct costs of an accident, the higher the ratio of indirect to direct costs.

Workers' Compensation Made Simple

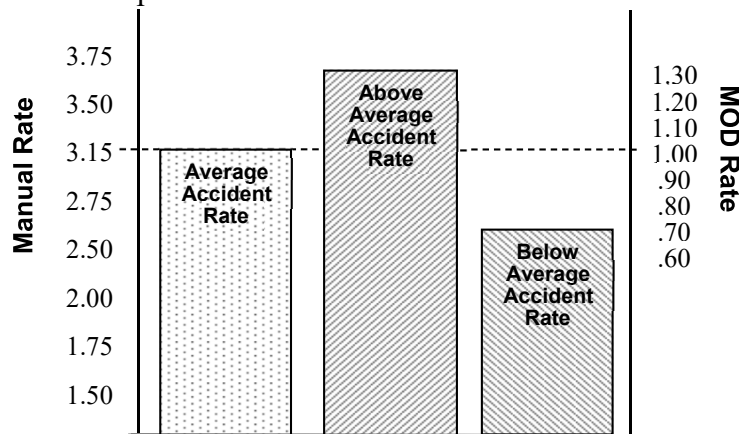
How are rates determined?

Manual Rating - Also called the “Pure Premium Rate,” this rate is applied to all industries of the same type or standard industrial classification (SIC). Expressed as:

Dollars per \$100 dollars of payroll

Example: \$3.15 per \$100 dollars of payroll.

Experience Rating - used to vary the company’s own rates, depending on its experience by comparing actual losses with expected losses.



XYZ Contractors MOD Rate in 2003 = 1.3

Classification Description	Code	Payroll	Base Rate/Premium	Adjusted Rate/Premium
Concrete - Floor/Driveway	5221	\$500,000	\$1.26/\$63,000	\$1.64/\$82,000
Carpentry - Multiple Family Dwell.	5651	\$500,000	\$3.97/\$198,500	\$5.16/\$258,000
			\$261,500	\$340,000

If the company has a profit margin of 5%, additional business volume to replace \$78,500 would be **\$1, 570,000!**

Adjusted Premium = \$261,500 + \$78,500 = \$340,000

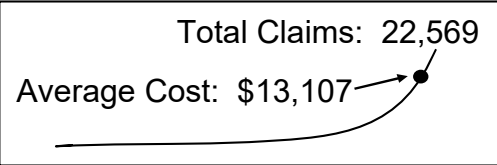
XYZ Contractors MOD Rate in 2004 = .7

Classification Description	Code	Payroll	Base Rate/Premium	Adjusted Rate/Premium
Concrete - Floor/Driveway	5221	\$500,000	\$1.26/\$63,000	\$.88/ \$44,000
Carpentry - Multiple Family Dwell.	5651	\$500,000	\$3.97/\$198,500	\$2.78/\$139,000
			\$261,500	\$183,000

Wow! If you reduce your MOD Rate from 1.3 to .7, total savings will be \$157,000. That’s \$3.14 million in business volume saved!

Adjusted Premium = \$261,500 - \$78,500 = \$183,000

2003 Average Cost For Disabling Claims By Event or Exposure- Partial List



Event or Exposure Leading to Injury (Partial list)	CLAIMS CLOSED	AVERAGE COST(\$)
1. <u>Lifting objects</u>	2,763	11,611
2. <u>Bodily reaction</u> , other	2,364	11,369
3. <u>Repetitive motion</u>	2,134	13,519
4. Fall to floor, walkway	1,930	12,124
5. <u>Overexertion</u> , all other	1,179	13,029
6. Non-classifiable	1,170	10,372
7. <u>Pulling, pushing objects</u>	1,131	11,989
8. Caught in equipment or objects	949	14,808
9. <u>Holding, carrying, wielding object</u>	879	14,651
10. Struck by falling object	863	14,249
Subtotal	<u>15,362</u>	
11. Struck against stationary object	598	7,784
12. Loss of balance	549	12,288
13. Highway accidents, collisions, other	484	<u>19,848</u>
14. Struck by, other	475	16,616
15. Fall to lower level, all other	369	16,088
16. Fall from ladder	367	<u>21,808</u>
17. Fall from non-moving vehicle	323	18,617
18. Fall down stair or step	283	13,690
19. Assault or Violent Act by person	249	13,385
20. Struck against moving object	161	15,008
21. Struck by Vehicle	157	15,105
22. Exposure to noise	146	11,563
23. Jump to lower level	142	15,171
24. Fall from floor, dock, ground level	119	17,940
25. Fall to same level, other	95	<u>20,381</u>
26. Fall from roof	67	<u>34,053</u>
27. Vibration	66	15,447
28. Fall from scaffold	61	<u>47,817</u>
29. Highway non-collision accident, other	41	14,164
30. Explosion	23	<u>27,453</u>
31. Contact with electrical current	22	<u>21,500</u>
32. 32. Fall from stacked material	21	<u>19,798</u>
33. Bodily reaction, exertion, other	13	<u>50,636</u>
34. Exposure to traumatic event	13	13,386
35. Caught in collapsing material	6	<u>20,495</u>



The top 10 total 68% of all closed disabling claims.

Ergonomics injuries total 46% of all closed disabling claims!

You may request a complete list from the Research and Analysis Section, Information Management Division, Department of Consumer and Business Services. <https://www.oregon.gov/dcbs/Pages/index.aspx>



Accountability (a big part of management leadership)

It's important that the employer fulfill legal obligations to the law and every employee. The "condition" of effective workplace safety accountability will exist if (1) appropriate behaviors are (2) objectively evaluated and (3) result in effective consequences.



Effective Appropriate Objective Effective
Accountability = Behavior + Evaluation → Consequences

ORS 654.022 Duty to comply with safety and health orders, decisions and rules. Every employer, owner, employee and other person shall

- obey and **comply** with every requirement of every order, decision, direction, standard, rule or regulation ...
- do everything necessary or proper in order to **secure compliance** with and observance of every such order, decision, direction, standard, rule or regulation.

OAR 437-001-0760 Rules for all Workplaces

(1) Employers' Responsibilities.

- (a) The employer shall see that workers are properly **instructed** and **supervised** in the safe operation of any machinery, tools, equipment, process, or practice which they are authorized to use or apply.
- (b) The employer shall take all reasonable means to **require** employees to...

According to the rules above, what is the employer required by to do?

OAR 437-001-0765(8) Accountability. The safety committee shall evaluate the employer’s accountability system and make recommendations to implement supervisor and employee accountability for safety and health.

An effective accountability system includes the following six key elements. You can use a checklist to evaluate your accountability system. Consider using a rating system such as 0=Does not exist, 1=Inadequate, 3=Adequate, 5=Excellent

1.1. Formal standards and expectations. Before employees can be held accountable, management must design and communicate employee accountabilities.

- Do clear safety policies, plans, processes, procedures, practices exist?
- Are safety standards written in the primary language(s) of all employees?
- Are safety policies and rules clearly communicated to all employees?
- Are reasons discussed for the importance of following safety rules and policies?

Why is it so important to write formal plans, policies, procedures and rules?

Why is it important to discuss why policies, procedures and rules are needed?

If people are taking shortcuts in areas such as safety and quality, the naturally occurring positive consequences associated with doing the job with less effort will cause the undesirable behaviors to continue.
Aubrey, C. Daniels, Bringing Out the Best in People, p. 29

1.2. Resources to meet/exceed expectations. Before management can hold employees accountable, they must first fulfill their obligation to provide employees with the tools to perform safely.

Physical Resources

- Are tools, equipment, machinery and materials adequate in ensuring a safe workplace?
- Are workstations designed to be ergonomically appropriate for the assigned worker?
- Is adequate Personal Protective Equipment provided to employees?
- Are chemical, noise, atmospheric and other environmental safety hazards controlled?

Social Support

- Is adequate initial safety orientation training being provided?
- Is adequate safety training on specific safety procedures being provided?
- Is management providing adequate safety leadership through example?
- Does the employee have the ability to complete work without undue physical or psychological stress?
- Does the workload or schedule produce excessive fatigue?
- Is an Employee Assistance Program (EAP) available?
- Do employees suffer negative consequences from using safe procedures and practices?
- Do positive working relationships exist between employees and supervisors?

If management fails to provide adequate resources and support, how does that affect the ability to hold employees accountable?

1.3. A process to evaluate behaviors. It's important that behaviors are measured and evaluated so that discipline is based on facts, not feelings.

- Is a process to observe behaviors and provide feedback carried out effectively?
- Are compliance behaviors evaluated instead of the employee's injury record?
- Are the results of observations being tracked to improve the safety management system?
- Do formal appraisals/reviews index safety performance?

Why is this statement true?

"When an employee is disciplined, that fact that there was an accident is irrelevant."

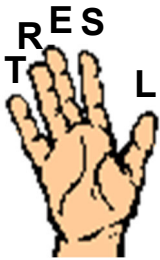
1.4. Effective consequences. Without effective consequences, improvement of behaviors and performance will not occur.

- Is discipline for noncompliance expected?
- Does discipline occur soon after justification is established?
- Do employees know exactly why they are being disciplined?
- Are the motives for disciplining perceived as a sincere attempt to help, not hurt?
- Do disciplinary procedures change behavior/performance in the desired direction?
- Is "progressive" discipline administered for repeated violations?

Why does discipline need to be "progressive" to be effective?

1.5. Appropriate application of Consequences. Appropriate consequences ensure discipline is justified and perceived as fair.

- Does management first make sure that their obligations to employees have been fulfilled before disciplining? (clear expectations, resources, training, enforcement, leadership)
- Does discipline occur as a result of failure to comply with safety policies and rules (behaviors) rather than “having an accident” (results)?
- Are employees automatically disqualified from safety recognition/rewards if they have an accident?
- Is discipline consistently applied throughout the organization - top to bottom and across functions?
- Is the purpose of discipline to improve performance rather than merely to punish?
- Is recognition occurring more often than discipline?
- Is discipline appropriate to the severity of the infraction?



For discipline to be justified, those in control should fulfill their obligations to the employee first. To make sure obligations are fulfilled, conduct a self-evaluation.

What questions should the supervisor or manager ask before administering discipline?

- 1. Have I ensured the employee is adequately T _____ ?***
- 2. Have I made sure the employee is provided adequate R _____ ?***
- 3. Have I effectively E _____ safety rules?***
- 4. Have I provided adequate S _____ ?***
- 5. Have I personally demonstrated safety L _____ ?***

6. Evaluation of the accountability system. Evaluation is essential in order to continually improve the accountability system.

- Is the safety committee evaluating the accountability system on a periodic/continuous schedule?
- Are all processes within each of the accountability system elements evaluated?
- Does the safety committee submit the evaluation results to management?
- Does the safety committee develop and submit recommendations to improve the accountability system?
- Does management respond to and implement safety committee recommendations?



Process for evaluating the accountability system

1. **Identify. Inspect** the various elements of your accountability system policies, procedures, processes and practices to **determine** what is present.

2. **Analyze. Dissect** and thoroughly **study** each accountability system policy, process, procedure and practice to **understand** what they look like and how they are being performed.

3. **Evaluate. Compare** and **contrast** the overall design and performance of the accountability system against best practices to **judge** of the system and how well it is working.



ELEMENT 2. Worker Participation

OAR 437-001-0765(6) Employee Involvement. The safety committee must have a system that allows employees an opportunity to report hazards and safety and health related suggestions.

OAR 437-001-0765(8) The safety committee minutes must be made available to all employees and include: all safety and health issues discussed, including tools, equipment, work environment, and work practice hazards; recommendations for corrective action and a reasonable date by which management agrees to respond; person responsible for follow up on any recommended corrective actions; and all reports, evaluations. and recommendations made by the committee.

What does an effective safety suggestion program look like?

What can we do to increase employee involvement in safety?

What's wrong with this safety incentive program policy?

"Every employee who works accident-free for a year will receive a \$1,000 bonus on December 15th!"

What's being rewarded? _____

What is management's message? _____

How do we fix this? _____



To create a culture of effective consequences, remember the five secrets to effective recognition:

S_____ - Recognize as soon as you can after the behavior occurs. Be careful recognition is based on fact, not just feeling. The longer you wait, the greater the recognition needs to be to achieve the same results.

S_____ - The employee knows for sure (1) they will be recognized, and (2) exactly why they are being recognized. Address the specific safety performance. Emphasize the positive impact the performance has on the organization. Avoid raffles, games, and other strategies that base recognition on "luck."

Criterion-based recognition works best

- Recognition based on meeting specific performance criteria
- Creates opportunities for many winners
- Does not reward first, best, most, highest, or most improved
- Focuses on individual, not group recognition
- Does not rely on gimmicks

S_____ - The importance of the consequence is determined by the receiver. This criteria is defined by the receiver. What is considered significant to one employee, may not be effective for another. You know the consequence is significant when it increases the frequency of desired behaviors. Tangible rewards shouldn't be thought of as the "big payoff." Rather, everyone should understand that rewards are "tokens" of appreciation for going beyond what's required.

S_____ - The most effective recognition is informal. A simple "atta-boy" or "atta-girl" may be all that is required. The best recognition may not require any money or plaques. Remember to KISMIF – Keep it simple make it fun!

S_____ - genuine approval for the right reasons. Motives for recognizing are appropriate (selfless). You don't recognize an employee just because it's policy. Recognition is more a matter of leadership than management. Recognition is sincere and shows a personal interest in the employee's success.

Bottom Line: *People do not care how much you know until they know how much you care.*

If you build it, they will come

Employee involvement is directly related to the quality of incentives (promises) and recognition (results) designed into a safety and health incentive and recognition program. To get more suggestions and participation in safety activities, build a program that recognizes and rewards everyone who gets involved.

Take home exercise: Have your safety committee evaluate the safety incentive and recognition program by completing the following 6 element/checklist and questions at your next meeting. Don't answer with a yes/no response. Rate effectiveness with criteria like: 0=Not Present, 1=Less Than Adequate, 3=Adequate, 5=Excellent.

Incentive Element 1. Formal Standards and Expectations



It's important that incentive, recognition, reward policies, and expectations are carefully formulated, clearly written, and effectively communicated to all employees.

- The written incentive/recognition plan includes clear and concise policies and procedures.
- The incentive and recognition plan identifies who is responsible for carrying out the plan.
- Policies and procedures are discussed with new employees at orientation.
- Employee surveys/interviews indicate a clear understanding of policies and procedures.

Based on the evaluation, is the incentive and recognition program clearly written and understood by all employees?

What can be done to improve the design of policies and procedures?



Incentive Element 2. Top Management Commitment

Equally important is that management commit resources and support employee involvement. Employees must feel comfortable getting involved and believe they'll be recognized and rewarded for their involvement.

- An effective safety culture exists. (People before production vs. Production before people.)
- Commitment and support is addressed in the written incentive/recognition plan.
- Employees are provided with adequate resources and enough time to support their involvement in safety.
- Workloads are adjusted and reasonable. (Employees can get involved in safety without the fear of jeopardizing job security)
- Employees do not suffer any negative consequences as a result of their safety involvement.
- Positive consequences occur more often than negative consequences.

How does the employer demonstrate a commitment to the safety incentive and recognition program.

Based on the evaluation above, is commitment adequate? Why?

What can be done to show greater employer commitment?



Incentive Element 3. An Effective Evaluation Process

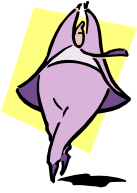
It's important that behaviors are carefully measured and evaluated so that recognition is based on facts, not just feelings.

- A measurement and evaluation process is included in the written recognition plan.
- Recognition criteria describes behaviors/activities over which employees have control.
- Recognition is not based solely on results/outcomes. (number of accidents, mod rate, etc.)
- Measurement criteria is clearly communicated and understood.
- Sustained performance of mandatory behaviors results in personal recognition.
- Voluntary behaviors result in personal recognition and tangible reward.
- Incentives identify and promise recognition/reward for specific desired behaviors.
- Tangible rewards are controlled and monitored by management.

According to the evaluation above, how are employees recognized?

Is the measurement and evaluation process adequate? Why?

How can we improve the measurement and evaluation process?



Incentive Element 4. Application of Effective Consequences

Without effective consequences, improvement in behaviors and performance will not occur.

- Recognition occurs soon after the behavior.
- Employees are certain they will be recognized for professional performance.
- Recognition and reward are based on specific behaviors rather than luck.
- Games (safety bingo, drawings, etc.) are not used to determine who gets recognized or rewarded.
- First, best, most improved categories are not part of the recognition process.
- The recognition and reward process does not include individual/group competition.
- Employees know exactly what behaviors lead to recognition.
- Recognition and rewards are considered significant/meaningful to employees.
- The motives for recognition and rewards are perceived as sincere.
- Recognition procedures actually result in changed behavior/performance in the desired direction.

If the application of effective positive consequences is not adequate, what can we do to improve the process?

A study conducted by A. Cohen and M.J. Smith of the National Institute of Occupational Health and Safety, indicated people work more safely when they are involved directly in decision making processes. They have to be given a channel to communicate their thoughts to management and receive positive feedback. People work more safely when they have specific and reasonable responsibilities, authority, goals and objectives with respect to identifiable safety performance standards. People are more highly motivated and work more safely when they have immediate feedback about their work.

Cohen and Smith's study indicated that among industry leaders in accident-free hours, use of monetary incentives was played down, and management frequently expressed the opinion that safety contests, give-away prizes and once-per-year dinners simply did not work.

Smith, Michael J.; Cohen, H. Harvey; Cohn, Alexander; Cleveland, Robert J. "Characteristics of Successful Safety Programs", Journal of Safety Research. Vol. 10, No. 1 (Spring, 1978) p. 9-10



Incentive Element 5. Appropriate Application of Consequences.

The appropriate application of consequences ensures that recognition and reward are perceived as fair. Recognition is appropriately applied when motives are correct and when recognition is contingent on performance rather than luck.

- Recognition and reward are contingent on individual behavior (not next on the list, politics, favoritism, etc.).
- Employees are recognized and rewarded for performance over which they have control
- Recognition procedures do not reward one person or group at the expense of another.
- Groups are not penalized for failure by an individual within the group.
- All employees who meet the criteria are rewarded.
- Recognition and reward occur as a result of meeting or exceeding behavioral expectations rather than "working accident free."
- Employees are not automatically disqualified from safety recognition or rewards if they have an accident.
- Employees are involved in determining criteria for recognition and rewards.
- The recognition and reward process is consistently applied throughout the organization - top to bottom and across functions.
- Recognition occurs more often than discipline.
- Recognition and rewards promote cooperation and sharing rather than competition.
- Recognition and rewards are appropriate to the positive impact on the organization.
- Employees consider the recognition and reward process fair.

If recognition and rewards are not appropriately applied, what can be improved?



Incentive Element 6. Evaluation of the overall incentive / recognition system

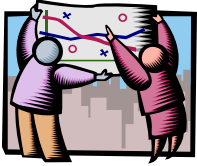
This element is essential in continually improving the processes within the system.

- The safety committee and safety coordinator are evaluating the incentive/recognition system on a periodic/continuous schedule.
- The plan, including all policies, plans, and procedures, is being carefully evaluated.
- The evaluation analyzes both the design and performance of the incentive and recognition plan and its policies, plans, and procedures.
- The safety committee develops and submits recommendations to improve the incentive/recognition system.
- The safety committee submits the evaluation results directly to top management for review and action.
- Safety committee recommendations for improvement include an estimated cost/benefit analysis.
- Management responds to safety committee/coordinator recommendations in a timely manner.
- The success of improvements to the incentive/recognition system is evaluated at some point in time after implementation.

What improvements, if any, can we make in our evaluation of the incentive and recognition program?

What can the safety committee do to increase the probability of timely management response to recommendations?

For more on this topic take the Oregon OSHA Hazard Identification and Control Workshop.



ELEMENT 3. Hazard Identification & Assessment

OSHA 437-001-0760(7) Inspections.

- a) All places of employment must be inspected by a qualified person or persons as often as the type of operation or the character of the equipment requires. Defective equipment or unsafe conditions found by these inspections must be replaced or repaired or remedied promptly.
- (b) Wherever required in this safety code, a written and dated report, signed by the person or persons making the inspection, must be kept.

A workplace hazard is an unsafe condition or practice (or combination of the two) that could cause an injury or illness to an employee.

What are the four categories of hazards in the workplace?



M _____



E _____



E _____



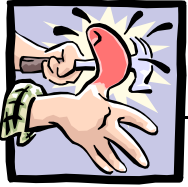
E _____

What causes most accidents: conditions or behaviors?

According to SAIF Corporation¹:

- Conditions directly account for _____ % of all accidents in the workplace.
- Behaviors account for _____ % of all workplace accidents.
- Uncontrollable acts/events account for _____ % of all workplace accidents.
- Therefore, the safety management system may contribute up to _____ % of all workplace accidents.

¹ Source: SAIF Corporation Lost Control Approach, Foundation, p. 9



Types of Workplace Hazards

1. **Acceleration.** When we speed up or slow down too quickly.
2. **Vibration/Noise.** Produce adverse physiological and psychological effects.
3. **Toxics.** Poisonous substance that is toxic to skin and internal organs.
4. **Radiation.** **Non-ionizing** - burns. **Ionizing** - destroys tissue.
5. **Ergonomics.** Unsafe lifting, lowering, pushing, pulling, twisting.
6. **Pressure.** Increased pressure in hydraulic and pneumatic systems.
7. **Mechanical.** Pinch points, sharp points and edges, weight, rotating parts, stability, ejected parts and materials, impact.
8. **Heat/Temperature.** Extremes in either can cause trauma, illness.
9. **Flammability/Fire.** In order for combustion to take place, the fuel and oxidizer must be present in gaseous form.
10. **Explosives.** Explosions result in large amounts of gas, heat, noise, light, pressure.
11. **Electrical contact.** Caused by inadequate insulation, broken electrical lines or equipment, lightning strike, static discharge, and so on.
12. **Chemical reactions.** Chemical reactions can be violent, can cause explosions, dispersion of materials and emission of heat.
13. **Biologicals.** Primarily airborne and bloodborne viruses.
14. **Workplace Violence.** Physical violence and verbal abuse by persons external and internal to the workplace

* Source: Occupational Safety Management and Engineering, Willie Hammer

Get the OSHA Hazard Awareness Advisor at www.osha.gov

OSHA's Hazard Awareness Advisor is powerful, interactive, expert software. It will help you (especially, small businesses) identify and understand common occupational safety and health hazards in your work place. It will ask you about activities, practices, materials, equipment, and policies at your work place. Then, it prepares a **unique, customized** report that briefly describes the likely hazards and the OSHA standards which address those hazards.

Four important hazard identification processes



The Walkaround Inspection

Conducting formal and informal safety inspections on a daily, weekly or monthly basis is important in making sure the workplace remains free of hazards that could cause injury or illness.

How to develop an effective safety and health checklist

- 1. Determine applicable state safety & health rules for the workplace.** Call the Oregon OSHA technical services section (800) 922-2689 request copies of the applicable rules.
- 2. Review rules and use those that apply to your workplace.** What rules, if violated would result in serious physical harm or fatality?
- 3. Develop applicable checklist questions that are not addressed in the rules.** Guard against “tunnel vision.”

Who should be involved in the inspection process?

Observations



While conducting inspections may be quite effective in identifying the causes for three percent of the accidents in your workplace, informal and formal observation activities are needed to address the other ninety-five percent.

Informal observations to detect and correct. When employees observe unsafe behaviors, they need to warn the employee. When employees spot hazardous conditions, they need to report and/or correct them. When supervisors and managers observe unsafe behaviors, they need to intervene with appropriate consequences.

Formal observation programs to gather facts. Formal observation procedures may be very helpful as a method to gather facts to help improve the safety management system. To be successful, formal observation procedures need to be carefully planned and implemented.



Inspect to identify potential accidents

Struck-by. A person is forcefully struck by an object. The force of contact is provided by the object.

Struck-against. A person forcefully strikes an object. The person provides the force or energy.

Contact-by. Contact by a substance or material that, by its very nature, is harmful and causes injury.

Contact-with. A person comes in contact with a harmful substance or material. The person initiates the contact.

Caught-on. A person or part of his/her clothing or equipment is caught on an object that is either moving or stationary.

Caught-in. A person or part of him/her is trapped, or otherwise caught in an opening or enclosure.

Caught-between. A person is crushed, pinched or otherwise caught between a moving and a stationary object, or between two moving objects.

Fall-To-surface. A person slips or trips and falls to the surface he/she is standing or walking on.

Fall-To-below. A person slips or trips and falls to a level below the one he/she was walking or standing on.

Over-exertion. A person over-extends or strains himself/herself while performing work.

Bodily reaction. Caused solely from stress imposed by free movement of the body or assumption of a strained or unnatural body position. A leading source of injury.

Over-exposure. Over a period of time, a person is exposed to harmful energy (noise, heat), lack of energy (cold), or substances (toxic chemicals/atmospheres).



Job Hazard Analysis

For more on this topic take the Oregon OSHA Job Hazard Analysis Workshop.

A Job Hazard Analysis, also called a job safety analysis. It is an organized approach that involves the worker and supervisor observing a task, breaking it down into steps. Each step is then analyzed for safety and operational needs. Recommendations are made for procedures that will meet those needs.

SAMPLE JOB HAZARD ANALYSIS WORKSHEET

Job Description: Loading an empty trailer with pallets of product.

Basic Job Step	Hazards Present	Safe Job Procedure
1. Ensure that the trailer is correctly spotted.	1. Worker could be caught between backing trailer and dock. Worker could fall from the dock.	1. Stay clear of the doorway while the trailer is being backed onto the dock. Keep others away from the area. Remove awareness chain or bar from the front of the dock door once the trailer is properly spotted.
2. Chock wheels; place jacks under trailer nose.	2. Worker could fall on stairs going to dock well. Worker's head could be struck against trailer. Worker could slip on ice or snow.	2. If the truck driver has not chocked the wheels, go down tile ramp/stairs to the dock well and chock the wheels. Use caution when walking on snow or ice. Hold onto hand rails; use ice-melt chemical if needed. When placing the chock, avoid bumping your head on the underside of the trailer. Place jacks under the nose of the trailer. If the dock is equipped with an automatic trailer restraint, push the button to activate the device.



Incident/Accident Analysis

All non-injury incidents and injury accidents, no matter how minor should be analyzed. Incident analysis allows you to identify and control hazards before they cause an injury. It's always smart business to carefully analyze non-injury incidents. Accident analysis is an effective tool for uncovering hazards that either were missed earlier or have managed to slip out of the controls planned for them. Both processes are most useful when done with the goal of discovering all of the underlying contributing root causes.

What is the purpose of the incident/accident analysis?



For more on this topic take the Oregon OSHA Accident Investigation Workshop.

Incident/Accident Analysis

General Responsibilities

OAR 437-001-0760(3)(a) Investigation of injuries. Each employer shall investigate or cause to be investigated every lost-time injury that workers suffer in connection with their employment, to determine the means that should be taken to prevent recurrence. The employer shall promptly install any safeguard to take any corrective measure indicated or found advisable.

What's a "lost time injury"?

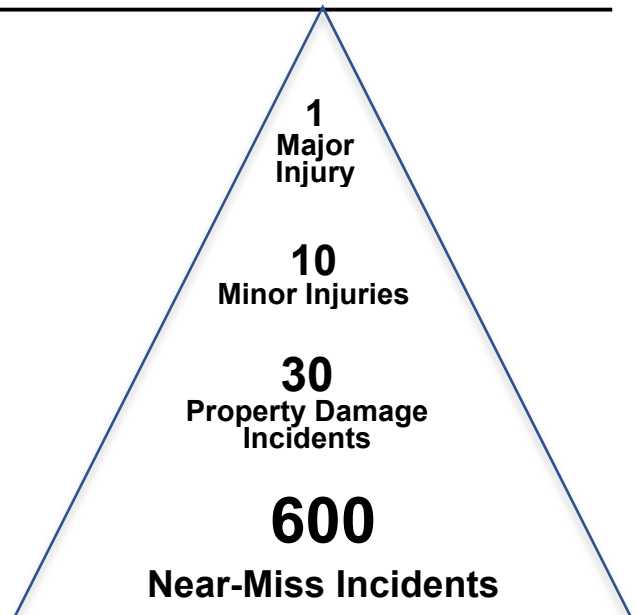
An injury that entitles the worker to compensation for disability or death. To fall into this category, the injury or illness must be severe enough for the employee to miss one or more days from work (not counting the day of injury/illness), cause a work restriction or transfer to another job.

Should we just investigate lost-time injuries? Why?

Why are we more likely to have an accident after repeatedly being exposed to a hazard?

What are the odds, you'll have an accident?

Source: Frank Bird 1969 Ratio Study based on 1,753,498 incidents reported by 297 companies, in 21 industry groups and 1,750,000 employees.





Investigation vs. Analysis: What's the difference?

Oregon OSHA. As stated in federal mandates and program directives, Oregon OSHA conducts accident investigations primarily to:

1. determine what happened, and
2. evaluate employer performance to determine if safety rules were violated

Therefore, Oregon OSHA investigates accidents to primarily fix the _____

Employer. However, according to best management practices, the employer should conduct an accident analysis process is conducted primarily to:

1. determine what happened, and
2. evaluate safety management system factors to determine the degree to which they may have contributed to the accident.



Therefore, employers analyze accidents to primarily fix the _____

Plan the work: Work the plan.

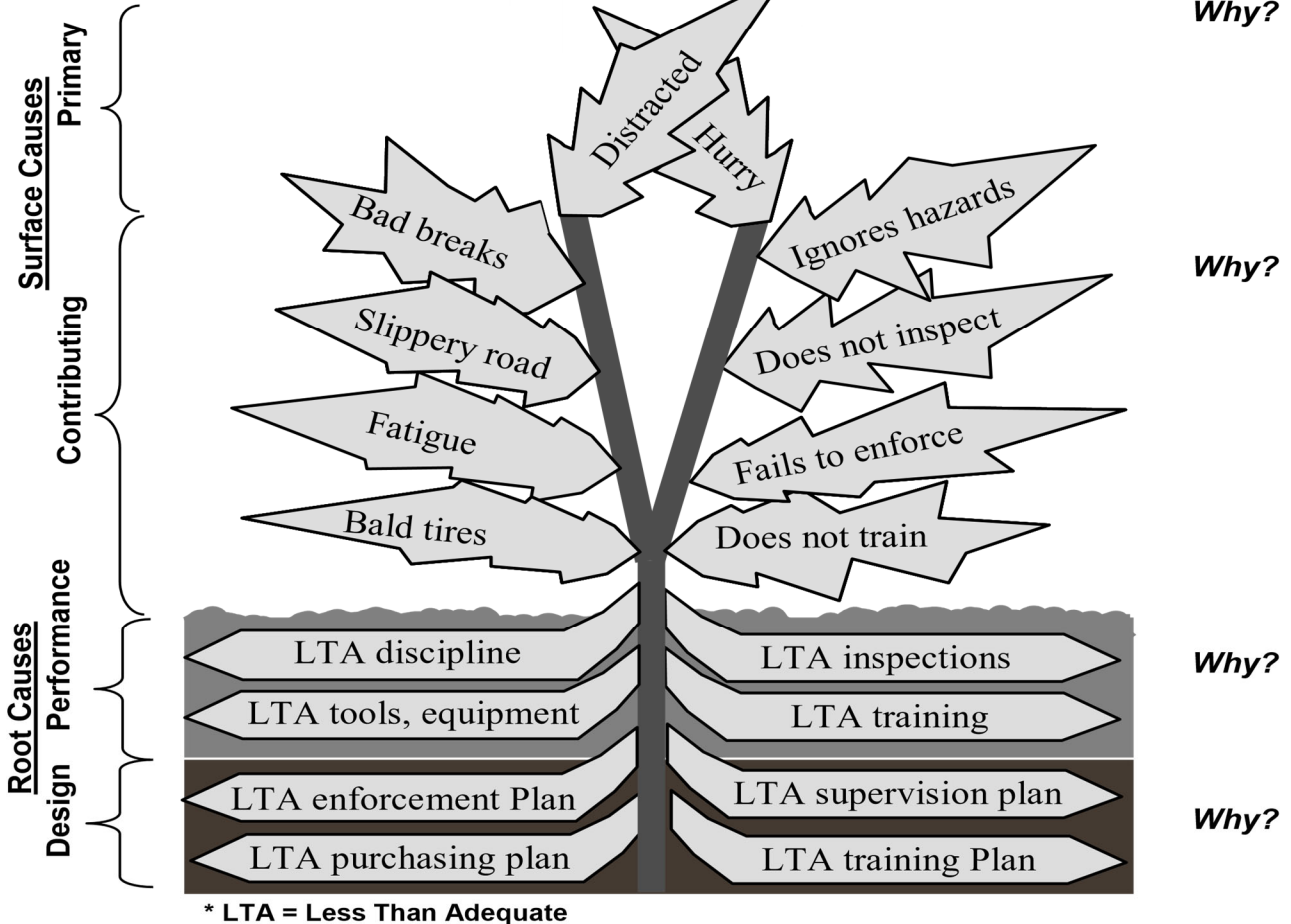
- Write a clear policy statement
- Designate those responsible to investigate accidents
- Identify those authorized to notify outside agencies
- Detail training for all accident investigators
- Establish timetables for conducting the process
- Identify who will receive the accident report and take corrective action

Why is it important to have a written incident/accident analysis plan?

Weed out the causes of injuries and illness

Conditions
Cause 3% of all accidents

Behaviors
Cause 95% of all accidents



Surface Cause of the Accident

- A specific/unique hazardous condition and/or unsafe action by a person
- Directly produces or indirectly contributes to the accident
- May exist or occur at any time and at any place in the organization

Root Cause of the Accident

- Less than adequate design and/or perform safety policies, programs, plans, processes, procedures, practices
- Created and exists prior to surface cause
- Result in common or repeated hazards
- Failure can occur anytime, anywhere

The six-step process

Gather Information	Step 1- <u>Secure the accident scene</u>
	Step 2- <u>Collect facts about what happened</u>
Analyze the facts	Step 3- <u>Develop the sequence of events</u>
	Step 4- <u>Determine the causes</u>
Implement Solutions	Step 5- <u>Recommend improvements</u>
	Step 6- <u>Write the report</u>

Three phases of analysis

1. Injury Analysis. Analyze the injury event to identify the direct cause of injury. Some examples are:

- Laceration to right forearm from contacting rotating saw blade. (mechanical energy)
- Contusion from head impacting concrete floor. (kinetic energy)
- Burn injury to right lower leg from contact by battery acid. (chemical energy)

2. Event Analysis. Analyze each event to identify potential surface causes for the accident. Look for related specific hazardous conditions and employee behaviors that directly caused or contributed to the accident. Some examples are:

- Unguarded saw blade. (condition)
- Working at elevation without proper fall protection. (behavior)
- Employee unaware of hazards associated with battery acid. (condition)
- Weekly inspection of saws is not being regularly conducted. (behavior)
- New employees are not trained on fall protection methods. (condition)
- Supervisor is not administering corrective actions for unsafe behaviors. (behavior)

3. Systems Analysis. Analyze surface causes to identify related root causes: those underlying management system design and implementation weaknesses that contributed to the accident. Look for inadequate policies, programs, plans, processes, procedures and practices affecting general conditions and behaviors. Some examples are:

- Inspection policy does not clearly specify responsibility by name or position. (design)
- No fall protection training plan or process in place. (design)
- Supervisors are not administering discipline when required. (implementation)
- Safety is not being addressed during new employee orientation (implementation)

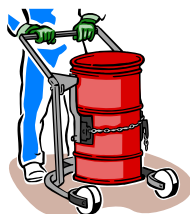


ELEMENT 4. Hazard Prevention and Control

Controlling The Hazards You Identify

For more information on this subject, take the Oregon OSHA Hazard Identification and Control Workshop.

437-001-0760(6) Extraordinary Hazards. When conditions arise that cause unusual or extraordinary hazards to workers, additional means and precautions shall be taken to protect workers or to control hazardous exposure. If the operation cannot be made reasonably safe, regular work shall be discontinued while such abnormal conditions exist, or until adequate safety of workers is ensured.



1. Engineering Controls

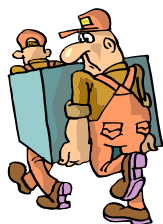
These controls focus on the source of the hazard, unlike other types of controls that generally focus on the employee exposed to the hazard. The basic concept behind engineering controls is that, to the extent feasible, the work environment and the job itself should be designed to eliminate hazards or reduce exposure to hazards.

Engineering controls are based on the following broad principles:

1. If feasible, design the facility, equipment, or process to remove the hazard and/or substitute something that is not hazardous or is less hazardous.
 - Redesign, change, or substitute equipment to remove the source of excessive temperatures, noise, or pressure;
 - Redesign a process to use less toxic chemicals;
 - Redesign a work station to relieve physical stress and remove ergonomic hazards; or
 - Design general ventilation with sufficient fresh outdoor air to improve indoor air quality and generally provide a safe, healthful atmosphere.
2. If removal is not feasible, enclose the hazard to prevent exposure during normal operations.
 - Completely enclose moving parts of machinery
 - Completely contain toxic liquids or gases
 - Completely contain noise, heat, or pressure-producing processes

3. Where complete enclosure is not feasible, establish barriers or local ventilation to reduce exposure to the hazard in normal operations. Examples include:

- Ventilation hoods in laboratories
- Machine guarding, including electronic barriers
- Isolation of a process in an area away from workers, except for maintenance work
- Baffles used as noise-absorbing barriers



2. Administrative (Management) Controls

By following established safe work practices for accomplishing a task safely (and using PPE in many cases), your employees can further reduce their exposure to hazards. Management controls attempt to change surface and root cause behaviors.

1. Some of these general practices are very general in their applicability. They include housekeeping activities such as:
 - Removal of tripping, blocking, and slipping hazards
 - Removal of accumulated toxic dust on surfaces
2. Other safe work practices apply to specific jobs in the workplace and involve specific procedures for accomplishing a job. To develop these procedures, you might conduct a job hazard analysis.
3. While controlling work practices and procedures, other measures such as changing work schedules can also be quite effective in helping to reduce exposure to hazards. Such measures include:
 - Lengthened rest breaks
 - Additional relief workers
 - Exercise breaks to vary body motions
 - Rotation of workers through different jobs



3. Personal Protective Equipment (PPE)

When exposure to hazards cannot be completely engineered out of normal operations or maintenance work, and when safe work procedures and practices cannot provide sufficient protection from exposure, personal protective clothing and/or equipment may be required.

PPE includes such items as:

Face shields	Steel-toed shoes	Safety glasses	Hard hats
Knee guards	Leather aprons	Mesh gloves	Life jackets
Respirators	Ear muffs	Safety goggles	Harness

What are some drawbacks of relying solely on PPE to protect workers?



4. Interim Measures

When a hazard is recognized, the preferred correction or control cannot always be accomplished immediately. However, in virtually all situations, temporary measures can be taken to eliminate or reduce worker risk. Some examples are:

- Taping down wires that pose a tripping hazard
- Shutting down an operation temporarily
- Placing cones to redirect employees around a spill

Why are engineering controls considered superior to management controls?



ELEMENT 5. Education and Training

Education tells Why

Education builds the philosophical foundation that establishes why safety is important. Education transfers general knowledge and more specifically explains natural and system consequences. The goals of safety education are to primarily increase knowledge and improve attitudes.

Training shows How

Training is one form of education that helps build specific knowledge and skills. Safety training helps employees perform safe procedures and practices. The goals of safety training are to primarily increase knowledge and improves skills.

Experience may improve skills

Experience within a supportive safety culture will help to further increase knowledge, skills and attitudes about safety in the workplace. It's important to understand how important the safety culture is to safe performance.

Consequences may sustain behavior

When employees understand the natural consequences (hurt or health) of their actions, they're more likely to use safe procedures and practices. Employees are also more likely to comply when they understand that system consequences (discipline, recognition) will be administered.

How do you know safety training is effective?

Why are improved skills and sustained behavior not guaranteed by effective safety training?

Bottom Line:

Training without effective consequences is worthless!

Two types of safety education



Type 1: General Safety Instruction

- General/Specific information and instruction is presented
 - Knowledge and skills are not measured or evaluated
 - Trainers may write goals for students. Instructional objectives are not required
 - All you have to do is attend to get a certificate
 - Measurement and evaluation focuses on student's reaction to the training session rather than learning
 - Measurement and evaluation tools include - "smile sheet" evaluation forms
-
-
-



Type 2: Technical Safety Training

- Describes general/specific policies, procedures, practices
 - Trainers should write goals and learning objectives for students
 - Knowledge and skills are measured and evaluated immediately after training in the learning environment
 - Measure and evaluate learners using oral/written exam, skill demonstration •
Learners must "pass a test" in class to get a certificate
 - **This level is required for most safety training!**
-
-
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On-the-Job Training

Step 1. Introduction. Tell the learner what you're going to train. Emphasize the importance of the procedure to the success of the production/service goals. Invite questions. Emphasize natural and system consequences.

Step 2. Trainer show and tell. The trainer demonstrates the process. The trainer first explains and demonstrates safe work procedures associated with the task. In this step the learner becomes familiar with each work practice and why it is important.



Trainer: **EXPLAINS** a step and then **PERFORMS** a step.

Learner: **OBSERVES** each step and **QUESTIONS** the trainer.

Step 3. Trainer ask and show. The learner explains the procedure to the trainer, while the trainer does it. This gives the trainer an opportunity to discover whether there were any misunderstandings in the previous step. This step protects the learner because the trainer performs the procedure. The learner responds to trainer questions.



Learner: **EXPLAINS** each step and **RESPONDS** to questions.

Trainer: **PERFORMS** each step and **QUESTIONS** the trainee.

Step 4. Trainee tell and show. The trainer has the trainee do it. The learner carries out the procedure but remains protected because the learner explains the process before proceeding to do it



Learner: **EXPLAINS**, gets **PERMISSION** and then **PERFORMS** each step.

Trainer: Gives **PERMISSION**, **OBSERVES** each step and **QUESTIONS** the trainee.

Step 5. Conclusion. Recognize the accomplishment. Reemphasize the importance of the procedure. Tie the training again to accountability.

Step 6. Document. Effective documentation is more than an attendance sheet. Make sure you “certify” that adequate knowledge and skills have been achieved. See the sample training certification document below. It represents one possible way to document training. Strong documentation includes:

DOCUMENT TRAINING! Sample training certification for specific tasks

Trainee certification. I have received on-the-job training from the trainer listed below on those subjects below (or on other side of sheet):

- List procedure(s)_trained _____
- List procedures(s) practiced: _____

This training has provided me adequate opportunity to practice and correct skill deficiencies. I understand that performing these procedures/practices safely is a condition of employment. I fully intend to comply with all safety and operational requirements discussed. I understand that failure to comply with these requirements may result in progressive discipline (or corrective actions) up to and including termination.

(Trainee)

(Date)

Trainer certification. I have conducted on-the-job training on the subjects for the trainee(s) listed above. I have explained procedures/practices and policies, answered all questions, observed practice, and tested each trainee individually. I have determined that the trainee(s) listed above has/have adequate knowledge and skills to safely perform these procedures/practices.

(Trainer)

(Date)

Training Validation

I have observed the above employee(s) on _____ and certify that they are using appropriate/safe procedures and practices per the training received.

(Supervisor)

(Date)

Step 7. Validate. At some point in time after the conclusion of the OJT session, observe and question the employee to validate that the training has been successful.



ELEMENT 6. Program Evaluation and Improvement

OAR 437-001-0765(7) Program Evaluation. The Safety Committee must establish procedures for conducting workplace safety and health inspections and review those reports and make recommendations for improvement. The safety committee should assist the employer in evaluating the employer's accident and illness prevention program, and should make written recommendations to improve the program where applicable...

What is the purpose of writing recommendations?

Critically review and update your SHMS at las needed (at least annually). Program evaluation gives you the ability to achieve a long-term focus on continuous improvement. Your self-evaluation process should include a review of your programs, a walk-through of your facility, and interviews with employees.

Employers with an effective SHMS will conduct an annual review of all OSHA mandates programs in order to:

Incorporate the following into your annual evaluation:

During the program evaluation and improvement process, evaluators should answer the following questions relating to each element and sub-element of the safety and health management system:

1. Is it comprehensive?
2. Is it operating effectively and meeting established goals and objectives?
3. Are there problems that require the development and implementation of solutions in order to maintain excellent worker protection and continued VPP eligibility?
4. What improvements can be made to make it even more effective?
5. What goal modifications should be made for the upcoming year?

Plan - Carefully plan the process

- Identify - “Is it present?” Yes/No. Inspect.
- Analyze - “What does the policy, plan, procedure look like?” Use outside experts.
- Evaluate - Rate effectiveness. “Is it effective?” Judgment call.
- Problem Solve - Come up with some ways to solve program weaknesses.
- Recommend - Submit your ideas. Be sure to state the benefits.

Do - Carry out the change

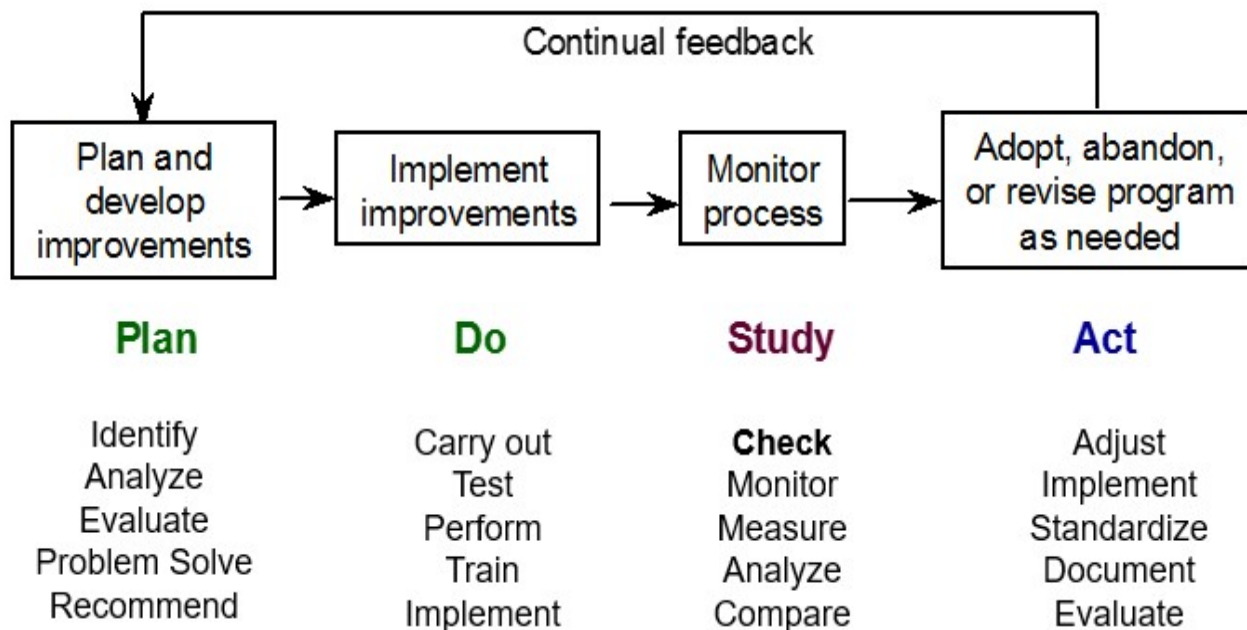
Use a small-scale test to implement the improvement. Educate and train those responsible for the implementation.

Check (Study) - Analyze and evaluate the effects

- Measure the results of the improvement by analyzing the data collected. Study to see if the process was improved.

Act (Adjust) - Adopt, Abandon, or Revise

- If the result was a clear improvement, make the change permanent. Standardize and document all actions. If the result was not an improvement, determine what needs to be done to improve: Go back to the planning phase and start over.





ELEMENT 7. Communication and Coordination **for host employers, contractors and staffing agencies.**

OAR 437, Div 1, Rule 760 (1) (d) Every employer must inform the employees regarding the known health hazards to which they are exposed, the measures which have been taken for the prevention and control of such hazards, and the proper methods for utilizing such control measures.

What is the purpose of communication and coordination?

Why Communicate and Coordinate?

- Communication to ensure everyone working on site understands the types of hazards present, the means and methods needed to avoid or control exposures, and how to contact the host employer to report injuries, illnesses or concerns. Coordination to ensure ALL workers on site know their roles and the roles of other groups to keep them from interfering with each other so as not to undermine the SHMS. This should happen before work starts and if conditions change.

Internally

- Ensure a procedure exists to provide open communication and coordination between shifts, crews, and departments to keep them on the same page.
- Identify issues that may arise and include a process to resolve conflicts before work starts.

Externally

- Temporary workers – Ensure any temporary workers are adequately trained and equipped before arriving on site.
- Contractors – Include in contracts safety-related specifications and qualifications to ensure contractors selected meet those requirements. Insure work is planned and scheduled to minimize impacts on safety
- Staffing Agencies- – include in contracts safety-related specifications and qualifications to ensure temporary staff selected meet those requirements. Clarify training responsibilities of the host employer and the staffing agency. Harmonize safety and health policies to resolve important differences so ALL workers receive consistent safety information before starting work.



That's it! Before you run...let's review

1. All systems have S _____, I _____, P _____, and O _____.

2. Conditions cause around _____ % of the accidents in the workplace, while behaviors account for about _____ % ?

3. According to the text, a safety management system should include all of the following positions, Except:
 - a. Safety engineer
 - b. Safety manager
 - c. Human resource coordinator
 - d. Quality control coordinator

4. Engineering controls reduce or eliminate _____ and management controls help to reduce or eliminate _____.
 - a. exposure, hazards
 - b. hazards, exposure
 - c. hazards, non-compliance
 - d. exposure, non-compliance

5. According to the text, effective recognition should be:
 - a. simple, certain, single, sincere, formal
 - b. soon, policy-driven, justified, significant
 - c. soon, sure, significant, simple, sincere
 - d. simple, sincere, policy-driven, personal

6. The condition of accountability exists when:
 - a. Performance + Evaluation -> Results
 - b. Results + Consequences -> Evaluation
 - c. Behavior + Evaluation -> Consequences
 - d. Results + Evaluation -> Consequences

7. Which of the following would be a surface cause of an accident?
 - a. A staff member fails to replace a guard after servicing equipment
 - b. No lockout/tagout procedures in place
 - c. The training plan does not include supervisor safety training
 - d. Some supervisors are ignoring safety rules

8. Which of the following describes a root cause for an accident?
 - a. An unguarded saw.
 - b. A missing MSDS.
 - c. PPE training plan does not include practice of spill procedures.
 - d. A maintenance worker fails to wear eye protection.

9. When it comes to discipline, the accident is an important consideration:
 - a. True, it should always be considered
 - b. False, it's irrelevant

10. The most effective accident investigations analyze _____ to determine _____.
 - a. the accident, fault
 - b. employee performance, surface causes
 - c. the accident, root causes
 - d. quickly, blame

Reference Materials

More on this topic in the Oregon OSHA Hazard Identification and Control Workshop.

Hazard Analysis Worksheet

Describe the Hazard(s):

Hazardous condition(s) - _____

Unsafe/Inappropriate behavior(s) - _____

Possible Accident Type(s): _____

Risk: Justify the estimated risk using the criteria below.

Exposure: (circle one) High Moderate Low What is the frequency and duration of physical/environmental exposure?

Probability: (circle one) Certain Highly Likely Likely Unlikely What is the likelihood of an accident occurring when exposed?

Severity: (circle one) Minor Injury Serious Injury Fatality How serious will the injury or illness be when exposed?

Overall Risk: (circle one) Extreme High Moderate Low

Hazard Analysis Worksheet

Recommended Corrective Action(s): Engineering controls. Ideas that will correct tools, equipment, machinery, materials, facilities, environment through redesign, substitution, replacement, barriers, ventilation, enclosure.

_____ Investment - \$ _____

_____ Investment - \$ _____

Recommended System Improvement(s): Management controls: Ideas that will Improve safety programs, policies, plans, processes, procedures, practices, rules, reports, forms that improve the ability of management to provide adequate resources, supervision, consequence and training.

_____ Investment - \$ _____

_____ Investment - \$ _____

Cost vs Benefit Analysis:

Accident Cost Estimates: Direct - \$ _____ Indirect - \$ _____ Total - \$ _____

Benefits: Percent Return on the investment = $\frac{\text{Total Accident Costs} \times 100}{\text{Investment}}$

Total Accident Costs x 100 _____ = % _____ ROI
Investment _____

More on this in Online Course: Personal Protective Equipment.

Sample PPE Walkthrough Survey and Certification

Department _____ Task _____ Date _____

Assess each task for hazards using following criteria: (1 **Type of injury or illness** possible; (2 **Probability** - unlikely, likely, highly likely; and (3 **Severity** - death, serious injury/illness, not serious injury/illness.

1. **Sources of motion** - machinery, processes, tools, materials, people etc. _____

Required PPE: _____

2. **Sources of high temperatures** - that could cause burns, ignition, injury to eyes, etc. _____

Required PPE: _____

3. **Sources of chemical exposure** - splash, vapor, spray, immersion, etc. _____

Required PPE: _____

4. **Sources of harmful atmospheres** - dust, fumes, gasses, mists, vapors, fibers, etc. _____

Required PPE: _____

5. **Sources of light radiation** - welding, brazing, cutting, furnaces, heat treating, high intensity lights, etc. _____

Required PPE: _____

6. **Sources of falling objects** - materials, equipment, tools, etc. _____

Required PPE: _____

7. **Sources of sharp objects** - which could pierce the skin - feet, hands, face etc. _____

Required PPE: _____

8. **Sources of rolling or pinching that could crush** - hands, feet. _____

Required PPE: _____

9. **Layout of workplace and location of co-workers** - adequate space for task. _____

Required PPE: _____

10. **Sources of contact with electricity** - wires, grounding, _____

Required PPE: _____

I certify that I have conducted a workplace survey on the above task to assess the need for personal protective equipment. The personal protective equipment noted above will be required while performing this task.

Signature

Date

Risk = Exposure x Probability x Severity



Use the tables below to rate the degree of risk an identified hazard presents in the workplace. Rate each category and total the scores on the next page.

Exposure	
How frequently is an employee placed in the physical or environmental danger zone.	
Double scores if the duration of exposure in any category is greater than 1 hour.	
The hazard-event occurs:	Rating
Continuously (or many times daily)	100 200
Frequently (approximately once daily)	50 100
Occasionally (from once per week to once per month)	10 20
Usually (from once per month to once per year)	5 10
Rarely (it has been known to occur)	2 4
Very rarely (not known of have occurred, but remotely possible)	1 2

Number of employees exposed _____ x rating _____ = score _____

Probability	
The likelihood of injury or illness.	Rating
Is the most likely and expected result if employee enters danger zone.	100
Is quite possible, would not be unusual, has an even 50/50 chance.	10
Would be unusual sequence or coincidence	5
Would be remotely possible coincidence. It has been known to have happened	3
Extremely remote but conceivably possible. Has never happened after many years of exposure.	2
Practically impossible sequence or coincidence. A "one in a million" possibility. Has never happened in spite of exposure over many years.	1

Number of employees exposed _____ x rating _____ = score _____

Severity	
The most likely result - degree of Severity of Consequences	Rating
Major Catastrophe: Numerous fatalities; extensive damage (over \$1M); major disruption	1000
Several fatalities; damage \$500K to \$1M	600
Fatality; damage \$100K to \$500K	200
Extremely serious injury; (amputation, permanent disability); damage \$1,000 to \$100,000	40
Disabling injuries; damage up to \$1,000	20
Minor cuts, bruises, bumps; minor damage	1

Number of employees exposed _____ x rating _____ = score

Using the information from the three charts above and the risk score equation, determine the risk associated with your scenario.

Risk Score = E _____ x P _____ x S _____ = _____

So, what do these scores mean?

Tip! When determining risk, you can use the definitions in the tables to develop a justification for the risk estimate.



Determine the costs

1. Estimate insured and uninsured costs for the resulting injury/illness if corrective actions are not taken.
2. List those factors you considered in arriving at your estimate in each area.

Determine Insured Costs - Budgeted Losses

- Additional workers compensation premium. They will also pay all claim costs (medical, lost time, partial permanent disability) plus 20% for actual losses accrued during the year.

Estimated claim costs \$ _____ x 1.2 Total \$ _____

What are the total estimated direct costs?

Total Estimated Direct Accident Costs \$ _____

Determine Uninsured Costs - Unbudgeted Losses

- Damage to equipment, machinery, materials, facility etc. Total \$ _____
- Production downtime. Downtime ____ Hrs. x Cost/Hr \$ _____ Total \$ _____
(Due to emergency actions, damage, etc. Assume that if any part of the production process fails, the entire production process is halted.)
- Losses or costs from other sources Total \$ _____
(Fire, explosion, chemical, emergency response, disposal, weather, etc.)
- Loss of product/services (Spoilage, defects, damage etc.) Total \$ _____
- Demurrage. (Delays in shipment, filling orders). Total \$ _____
- Additional overtime # Empls. ____ x Avg. OT wages \$ _____ x # Hrs. _____ = Total \$ _____
- Supervisor lost time resulting from accident (inspections, accident investigation, meetings, admin, reports, etc.)
Salary \$ _____ x # Hrs. \$ _____ = Total \$ _____
- Other managers' lost time resulting from accident. (Inspections, meetings, admin, reports, etc.)
Mgrs. ____ x Avg Salary \$ _____ x # Hrs. _____ = Total \$ _____

•Employees assisting with accident. (first aid, accident inv., clean-up, repairs)

Empls. _____ x Avg. Wage \$ _____ x # Hrs. _____ = Total \$ _____

•Hiring and training replacement workers

Total \$ _____

•Wages of replacement workers

Empls. _____ x Avg. Wage \$ _____ x # Hrs. _____ = Total \$ _____

•Other non-productive time incurred by victim(s) # Hrs. _____ x Avg. Wage \$ _____ = Total \$ _____
(Medical follow-up appointments etc.)

•Potential Oregon OSHA penalties
(Reference penalty schedule in appendix) Total \$ _____

•Attorney fees # Hrs. _____ x \$200.00/Hr Total \$ _____

•Other _____ Total \$ _____

What are the total estimated uninsured costs?

Total Estimated Uninsured Accident Costs: \$ _____

What is the ratio of uninsured to insured costs in your scenario?

Uninsured Costs = _____ to 1
Insured Costs

What are the total accident costs?

Insured Costs \$ _____ + Uninsured Costs \$ _____ = \$ _____

How to Determine the benefits

The only way management is going to act on your recommendation is if they clearly understand the positive consequences from doing so. You're going to have to ask the questions, "What are the benefits that result from ...

- **fulfilling social obligations** - higher morale, reputation, long-term success
- **fulfilling fiscal obligations** - lower premiums, higher productivity, profits, efficiency, quality
- **fulfilling legal obligations** - no/low Oregon OSHA penalties, no litigation.



Determine the bottom-line benefits

What is the total investment? Determine the total investment required to take corrective actions and make system improvements.

Return on Investment

Percent ROI = $\frac{\text{Total Estimated Accident Costs}}{\text{Total Investment}}$

$$\text{ROI} = \frac{\$ \underline{\hspace{2cm}}}{\$ \underline{\hspace{2cm}}} \times 100 = \underline{\hspace{2cm}} \%$$

How long will it take to get our money back from the investment?

Payback Period

$$\text{Payback Period} = \frac{\text{Total Investment}}{\text{Total Estimated Accident Costs}}$$

$$\text{Payback Period} = \frac{\$ \underline{\hspace{2cm}}}{\$ \underline{\hspace{2cm}}} = \underline{\hspace{1cm}} \text{ Years}$$

or Months
(x 12)

or Weeks
(x 52)

or Days
(x 365)

How much product or service will XYZ have to sell to pay for the accident costs?

Business volume required to cover cost

$$\text{Volume} = \frac{\text{Total Estimated Accident Costs}}{\text{Profit Margin}}$$

$$\text{Business Volume} = \$ \frac{\underline{\hspace{2cm}}}{.05^*} = \$ \underline{\hspace{2cm}}$$

*XYZ's profit margin is 5% or .05

Write a recommendation that sizzles!

The only step left is to write an effective recommendation. Remember, the safety committee is required to submit a written recommendation. However, the employer may require an oral presentation in addition to the written recommendation. Let's take a look at one effective written format.

Sample Written Recommendation

I. Description of the problem

All "homemade" guardrails used in Warehouse #2 are defective.

II. History of the problem

- a. Three years ago, an employee fell through one of the homemade guardrails. The employee suffered a broken right leg. Annual workers' compensation premiums increased \$_____, and uninsured costs were \$_____ as a result of the previous disabling claim.
- b. The safety committee identified this hazard shortly after the accident and submitted a recommendation to repair the section of broken guardrail for an investment of \$_____. There is no record of a response to this recommendation in subsequent safety committee minutes.

III. Cause analysis

- a. **Surface cause(s).** Although the guardrails were identified three years ago by the safety committee for repair, the action was not funded. Subsequent quarterly safety inspections failed to uncover the uncorrected hazard.
- b. **Root cause(s).** Corrective action has not been funded due to inadequate budgetary policy regarding safety related items. Inadequate hazard monitoring/tracking procedures have also contributed to the problem.

IV. Recommendations and estimated investment

- a. **Engineering controls.** Install a new guardrail system in compliance with Oregon OSHA safety and health rules. Estimated investment: \$_____. \$_____ in wages. Time required for replacement: 8 hours. Maintenance supervisor has necessary resources to commit to installation within one day of notification that the new guardrail system has arrived. Purchasing has order for guardrail ready for signature (see attach) Recommended correction date: Immediately.

- b. **Management controls.** Develop a work procedure that requires employees not to work on platforms unless absolutely necessary. Document management review of inspection reports. Estimated investment: \$ _____ for time required to review documents.
1. Scheduling. Develop and carry out policy that requires workers to take required 15-minute breaks at the required times. Estimated investment: \$ _____. Recommended action date: Immediately.
 3. Personal Protective Equipment (PPE). Fall restraint system should be used by workers on platform until guardrails are installed. Investment: \$ _____ for equipment, \$ ____/year for training and monitoring use of equipment. Recommended action date: Immediately.
 4. Interim measures. Improve the stability of current guardrails.
- c. **System Improvements.** Develop and carry out a new policy that establishes reasonable response times to recommendations. Revise inspection procedures to include status of guardrails throughout all facilities. Investment: \$ ____/year for training and monitoring/review of procedures.

V. Costs associated with failure to implement recommendation(s)

- a. **Fiscal.** Elimination of possible accident(s). Corrective action will result in elimination of the risk of the following potential accidents in the foreseeable future.
1. Struck by falling object. Average insured cost for this accident type is \$9,851. Estimated uninsured cost \$ _____. Total estimated accident costs resulting from corrective actions = \$ _____
 2. Fall from elevated platform. Average insured cost for this accident is \$15,668. Estimated uninsured cost \$ _____. Total estimated accident costs resulting from corrective action is \$ _____.
 3. Fatality. Average insured cost to close a fatality claim in Oregon is over \$300,000. Uninsured costs may be an additional \$700,000. Total estimated accident costs resulting from a fatality may be over \$1 million.
- b. **Legal** - The homemade guardrails do not meet Oregon OSHA rule requirements (see appendix). Since employer knowledge exists, failure to take action at this time may result in a willful violation. Cost: (Serious violation \$300-\$5,000. Willful violation = \$5,000 - \$70,000).

c. **Risk.**

1. Exposure - Twelve employees work in the area throughout an 8-hour shift. Five employees routinely work on the platform. Approximately 30 employees walk through the hazard area each day.
2. Probability - It is likely that one of the above accidents will occur within the next year. There was a near miss six months ago when an employee was nearly hit by a falling container.
3. Severity - Most likely - Serious physical harm. Worst Case - death.

Section VI. Summary of Benefits

- a. **Total potential accident costs.** Serious Injury \$ _____ (Does not include possible Oregon OSHA penalties) Fatality \$ _____
- b. **Total investment.** Option 1 \$ _____ Option 2 \$ _____ Option 3 \$ _____ All Options \$ _____
- c. **Returns, Payback Period, Replacement Business Volume**
 Option 1: ROI = ___% Payback Period = ___ Replacement BV \$ _____
 Option 2: ROI = ___% Payback Period = ___ Replacement BV \$ _____
 Option 3: ROI = ___% Payback Period = ___ Replacement BV \$ _____
- d. **System improvement.** Revising purchasing policy for personal protective equipment will ensure that only quality PPE is purchased in the future. Assigning PPE purchasing authority to line supervisors appropriately places accountability for this responsibility on line managers. Improving the fall protection training plan so that it includes information on fall protection systems will increase general knowledge and skills in using fall protection. Strengthening training documentation by including statements of understanding and compliance will improve accountability and auditing.
- e. **OSHA compliance.** Being in compliance with Oregon OSHA standards will help avoid violations and potential penalties.
- f. **Morale/Welfare.** Implementing these recommendations will improve morale and increase the overall welfare of our employees.

(Sample)

Safety and Health Training Plan

(Company Name)

1.0 Purpose

Training is one of the most important elements in our company's Safety and Health Program. It gives employees an opportunity to learn their jobs properly, bring new ideas into the workplace, reinforce existing ideas and practices, and put our Safety and Health Program into action.

Everyone in our company will benefit from safety and health training through fewer workplace injuries and illnesses, reduced stress, and higher morale. Productivity, profits, and competitiveness will increase as production costs per unit, turnover, and workers compensation rates lower.

2.0 Management commitment.

_____ will provide the necessary funds and scheduling time to ensure effective safety and health training is provided. This commitment will include paid work time for training and training in the language that the worker understands. Both management and employees will be involved in developing the program.

To most effectively carry out their safety responsibilities, all employees must understand (1) their role in that program, (2) the hazards and potential hazards that need to be prevented or controlled, and (3) the ways to protect themselves and others. We will achieve these goals by:

- Educate all managers, supervisors and employees on their safety management system responsibilities;
- Educate all employees about the specific hazards and control measures in their workplace;
- Train all employees on hazard identification, analysis, reporting and control procedures;
- Train all employees on safe work procedures.

Our training program will focus on health and safety concerns that determine the best way to deal with a particular hazard. When a hazard is identified, we will first try to remove it entirely. If that is not feasible, we will then train workers to protect themselves, if necessary, against the remaining hazard. Once we have decided that a safety or health problem can best be addressed by training (or by another method combined with training), we will follow up by developing specific training goals based on those particular needs.

Employees. At a minimum, employees must know the general safety and health rules of the worksite, specific site hazards and the safe work practices needed to help control exposure, and the individual's role in all types of emergency situations. We will ensure all employees understand the hazards to which they may be exposed and how to prevent harm to themselves and others from exposure to these hazards.

We will commit available resources to ensure employees receive safety and health training during the following:

- Whenever a person is hired -- general safety orientation including an overview of company safety rules, and why those rules must be followed.
- Whenever an employee is given a new job assignment -- during formal classroom training, and again, when the supervisor provides specific task training. It's extremely important that supervisors emphasize safety during initial task assignment.
- Whenever new work procedures are begun -- during formal classroom training and supervisor on-the-job training.
- Whenever new equipment is installed -- if new hazards are introduced.
- Whenever new substances are used -- hazard communication program may apply.
- The bottom line -- train safety whenever a new hazard is introduced to the employee.

Employees must know they are responsible for complying with all company safety rules, and that most accidents will be prevented by their safe work practices. They must be very familiar with any personal protective equipment required for their jobs. They must know what to do in case of emergencies.

Each employee needs to understand that they are not expected to start working a new assignment until they have been properly trained. If a job appears to be unsafe, they will report the situation to their supervisor.

Supervisors. Supervisors will be given special training to help them in their leadership role. They need to be taught to look for hidden hazards in the work under their supervision, to insist upon the maintenance of the physical protection in their areas, and to reinforce employee hazard training through performance feedback and, when necessary, fair and consistent enforcement.

We will commit necessary resources to ensure supervisors understand the following responsibilities and the reasons for them:

- Detecting and correcting hazards in their work areas before they result in injuries or illnesses;
- Providing physical resources and psychosocial support that promote safe work.
- Providing performance feedback and effective recognition and discipline techniques.
- Conducting on-the-job training.

Supervisors are considered the primary safety trainers. All supervisors will complete train-the-trainer classes to learn training techniques and how to test employee knowledge and skills. They will also receive training on how to apply fair and consistent recognition and discipline. Supervisor training may be provided by the supervisor's immediate manager, by the Safety Department, or by outside resources.

Managers. All line managers must understand their responsibilities within our Safety and Health Program. This may require classroom training and other forms of communication that ensure that managers understand their safety and health responsibilities. Formal classroom training may not be necessary. The subject can be covered periodically as a part of regular management meetings.

Managers will be trained in the following subject areas:

- The elements of the safety management system, and the positive impact of the various processes within the system can have on corporate objectives,
- Their responsibility to communicate the Safety and Health Program goals and objectives to their employees, and
- Their role also includes making clear assignments of Safety and Health Program responsibilities, providing authority and resources to carry out assigned tasks, and holding subordinate managers and supervisors accountable.
- Actively requiring compliance with mandatory Safety and Health Program policies and rules and encouraging employee involvement in discretionary safety activities such as making suggestions and participation in the safety committee.

Training will emphasize the importance of managers' visibly showing their commitment to the safety and health program. They will be expected to set a good example by scrupulously following all the safety and health rules themselves.

Recognition and Reward

The purpose of an effective system of recognition is to motivate employee involvement and build ownership in our safety system. When employees make suggestions that will improve our safety training, we will recognize them. When employees make a significant contribution to the success of the company we will recognize and reward their performance. Employees will submit all suggestions directly to immediate supervisors. Supervisors are authorized to reward employees on-the-spot when the suggestion substantially improves the training process or content.

3.0 Training and Accountability

To help make sure our efforts in safety and health are effective we have developed methods to measure performance and administer consequences. Managers must understand that they have a responsibility to first meet their obligations to our employees prior to administering any discipline for violating safety policies and rules.

Managers and safety staff will be educated on the following elements (processes) of the safety accountability system (See Appendix F) They will be trained on the procedures to evaluate and improve these elements. Training will focus on improving the Safety and Health Program whenever hazardous conditions and unsafe or inappropriate behaviors are detected. At the same time, we will use effective education and training to establish a strong "culture of accountability."

Safety orientation will emphasize that compliance with safety policies, procedures, and rules as outlined in the safety plan is a condition of employment. Discipline will be administered to help the employee increase desired behaviors, not to in any way punish. Safety accountability will be addressed at every training session.

4.0 Types of Training

Required rules-related training will be conducted according to guidelines detailed in Oregon OSHA Publication, **Be Trained**. We will also make sure additional training is conducted as deemed appropriate.

_____ (Responsible individual) will ensure Safety and Health Program training is in full compliance with Oregon OSHA standards.

New Employee Orientation. The format and extent of orientation training will depend on the complexity of hazards and the work practices needed to control them. Orientation will include a combination of initial classroom and follow-up on-the-job training.

- For some jobs, orientation may consist of a quick review of site safety and health rules; hazard communication training for the toxic substances present at the site; training required by relevant OSHA standards, e.g., fire protection, lockout/tagout, etc.; and a run-through of the job tasks. This training be presented by the new employee's supervisor or delegated employee.
- For larger tasks with more complex hazards and work practices to control them, orientation will be structured carefully. We will make sure that our new employees start the job with a clear understanding of the hazards and how to protect themselves and others.

We will follow up supervisory training with a buddy system, where a worker with lengthy experience is assigned to watch over and coach a new worker, either for a set period of time or until it is determined that training is complete.

Whether the orientation is brief or lengthy, the supervisor will make sure that before new employees begin the job, they receive instruction in responding to emergencies. All orientation training received will be properly documented.

Contract workers will receive training to recognize our specific workplace's hazards or potential hazards.

Experienced workers will be trained if the installation of new equipment changes their job in any way, or if process changes create new hazards or increase previously existing hazards.

All workers will receive refresher training as necessary to keep them prepared for emergencies and alert to ongoing housekeeping problems.

Personal Protective Equipment (PPE). Workers needing to wear personal protective equipment (PPE) and persons working in high risk situations will need special training. Supervisors and workers alike must be taught the proper selection, use, and maintenance of PPE. Since PPE sometimes can be cumbersome, employees may need to be motivated to wear it in every situation where protection is necessary. Therefore, training will begin with a clear explanation of why the equipment is necessary, how its use will benefit the wearer, and what its limitations are. Remind your employees of your desire to protect them and of your efforts, not only to eliminate and reduce the hazards, but also to provide suitable PPE where needed.

Individual employees will become familiar with the PPE they are being asked to wear. This is done by handling it and putting it on. Training will consist of showing employees how to put the equipment on, how to wear it properly, and how to test for proper fit and how to maintain it. Proper fit is essential if the equipment is to provide the intended protection. We will conduct periodic exercises in finding, donning, and properly using emergency personal protective equipment and devices.

Vehicular Safety. All workers operating a motor vehicle on the job (on or off premises) will be trained in its safe vehicle operation, safe loading and unloading practices, safe speed in relation to varying conditions, and proper vehicle maintenance. We will emphasize in the strongest possible terms the benefits of safe driving and the potentially fatal consequences of unsafe practices.

Emergency Response. We will train our employees to respond to emergency situations. Every employee at every worksite will understand:

- Emergency telephone numbers and who may use them,
- Emergency exits and how they are marked,
- Evacuation routes, and
- Signals that alert employees to the need to evacuate.

We will practice evacuation drills at least semi-annually, so that every employee has a chance to recognize the signal and evacuate in a safe and orderly fashion. Supervisors or their alternates will practice counting personnel at evacuation gathering points to ensure that every worker is accounted for. We will include procedures to account for visitors, contract employees, and service workers such as cafeteria employees. At sites where weather or earthquake emergencies are reasonable possibilities, additional special instruction and drilling will be given.

Periodic Safety and Health Training. At some worksites, complex work practices are necessary to control hazards. Elsewhere, occupational injuries and illness are common. At such sites, we will ensure that employees receive periodic safety and health training to refresh their memories and to teach new methods of control. New training also will also be conducted as necessary when OSHA standards change or new standards are issued.

Where the work situation changes rapidly, weekly meetings will be conducted needed. These meetings will remind workers of the upcoming week's tasks, the environmental changes that may affect them, and the procedures they may need to protect themselves and others.

Identifying types of training. Specific hazards that employees need to know about should be identified through total site health and safety surveys, job hazard analysis, and change analysis. Company accident and injury records may reveal additional hazards and needs for training. Near-miss reports, maintenance requests, and employee suggestions may uncover still other hazards requiring employee training.

5.0 Safety and Health Training Program Evaluation

We will determine whether the training provided has achieved its goal of improving employee safety performance. Evaluation will highlight training program strengths and identify areas of weakness that need change or improvement.

_____ (The safety committee/coordinator) will evaluate training through the following methods:

- Observation of employee skills
- Surveys and interviews to determine employee knowledge and attitudes about training
- Review of the training plan and lesson plans
- Comparing training conducted with hazards in the workplace
- Review of training documents
- Compare pre- and post-training injury and accident rates

If evaluation determines program improvement is necessary, the safety committee/coordinator will development recommendations.

6.0 Certification

Reviewed by (Signature)

Date

Approved by (Signature)

Date

Appendix D: _____ Safety Training Certification

(Company Name)

Training Subject _____ Date _____ Location _____

Trainee certification. I have received on-the-job training on those subjects listed (see other side of this sheet):

This training has provided me adequate opportunity to ask questions and practice procedures to determine and correct skill deficiencies. I understand that performing these procedures/practices safely is a condition of employment. I fully intend to comply with all safety and operational requirements discussed. I understand that failure to comply with these requirements may result in progressive discipline (or corrective actions) up to and including termination.

Employee Name	Signature	Date
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

Trainer certification. I have conducted orientation/on-the-job training to the employees(s) listed above. I have explained related procedures, practices and policies. Employees were each given opportunity to ask questions and practice procedures taught under my supervision. Based on each student's performance, I have determined that each employee trained has adequate knowledge and skills to safely perform these procedures/practices.

Trainer Name	Signature	Date
_____	_____	_____

Supervisor validation. I have observed the above employee(s) on _____ and certify that he/she/they correctly completed all steps and employed safe practices as trained.

Supervisor	Signature	Date
_____	_____	_____

Appendix D (Cont.): (Page 2 of certification) Hazard Communication Training Outline

The following information was discussed with students:

Overview of the hazard communication program - purpose of the program

- Primary, secondary, portable, and stationary process container labeling requirements
 - Discussion of the various sections of the MSDS and their location
 - Emergency and Spill procedures
 - Discussion of the hazards of the following chemicals to which students will be exposed
 - Symptoms of overexposure
 - Use/care of required personal protective equipment used with the above chemicals
 - Employee accountability
- _____
- _____

The following procedures were practiced:

- Spill procedures
- Emergency procedures
- Personal protective equipment use

The following (oral/written) test was administered: (Or each student was asked the following questions) (I recommend you keep these tests as attachments to the safety training plan and merely reference it here to keep this document on one sheet of paper)

1. What are the labeling requirements of a secondary container? (name of chem. and hazard warning)
2. When does a container change from a portable to secondary container? (when employee loses control)
3. What are the symptoms of overexposure to _____? (stinging eyes)
4. Where is the "Right to Know" station (or MSDS station) located? (in the production plant)
5. What PPE is required when exposed to _____? (short answer)
6. How do you clean the PPE used with _____? (short answer)
7. What are the emergency procedures for overexposure to _____? (short answer)
8. Describe spill procedures for _____. (short answer)
9. When should you report any injury to your supervisor? (immediately)
10. What are the consequences if you do not follow safe procedures with this chemical (injury, illness, discipline)

“Fix The System” Incident/Accident Analysis Plan

1.0 General Policy

_____ considers employees to be our most valued asset and as such we will ensure that all incident and accidents are analyzed to correct the hazardous conditions, unsafe practices, and improve related system weaknesses that produced them. This incident/accident analysis plan has been developed to ensure our policy is effectively implemented.

_____ will ensure this plan is communicated, maintained and updated as appropriate.

2.0 Incident/Accident Reporting

2.1 Background. We can't analyze incidents and accidents if they are not reported. A common reason that they go unreported is that the incident/accident analysis process is perceived to be a search for the “guilty party” rather than a search for the facts. We agree with current research that indicates most accidents are ultimately caused by missing or inadequate system weaknesses. Management will assume responsibility for improving these system weaknesses. When we handle incident/accident analysis as a search for facts, the all employees are more likely to work together to report incidents/accidents and to correct deficiencies, be they procedural, training, human error, managerial, or other. Consequently, our policy is to analyze accidents to primarily determine how we can fix the system. We will not investigate accidents to determine liability. A “no-fault” incident/accident analysis policy will help ensure we improve all aspects of our manufacturing process.

2.2 Policy. All employees will report immediately to their supervisor, any unusual or out of the ordinary condition or behavior at any level of the organization that has or could cause an injury or illness of any kind. Supervisors will recognize employees immediately when an employee reports an injury or a hazard that could cause serious physical harm or fatality, or could result in production downtime. (See recognition program procedures)

2.3 _____ will ensure effective reporting procedures are developed so that we can quickly eliminate or reduce hazardous conditions, unsafe practices, and system weaknesses.

3.0 Preplanning.

Effective incident/accident analysis starts before the event occurs by establishing a well-thought-out incident/accident analysis process. Preplanning is crucial to ensure accurate information is obtained before it is lost over time following the incident/accident as a result of cleanup efforts or possible blurring of people's recollections.

4.0 Incident/Accident Analysis.

4.1 All supervisors are assigned the responsibility for analyzing incidents in their departments. All supervisors will be familiar with this plan and properly trained in analysis procedures.

4.2 Each department supervisor will immediately analyze all incidents (near hits) that might have resulted in serious injury or fatality. Supervisors will analyze incidents that might have resulted in minor injury or property damage within 4 hours from notification.

4.3 The supervisor will complete and submit a written incident/minor injury report through management levels to the plant superintendent. If within the capability/authority of the supervisor, corrective actions will begin immediately to eliminate or reduce the hazardous condition or unsafe work practice the might result in injury or illness.

5.0 Management Responsibilities

5.1 When our company has an incident/accident such as a fire, release, or explosion emergency, management will:

1. Provide medical and other safety/health help to personnel;
2. Bring the incident under control, and
3. Investigate the incident effectively to preserve information and evidence.

5.2 To preserve relevant information the analyst will:

1. Secure or barricade the scene;
2. immediately collect transient information;
3. Interview personnel.

6.0 Incident/accident Analysis Team

6.1 Background. It is important to establish incident/accident analysis teams **before** an event occurs so that the team can quickly move into action if called on. The makeup of the team is another important factor affecting the quality of the analysis. We will appoint competent employees who are trained, and have the knowledge and skills necessary to conduct an effective analysis. Doing so will show management's commitment to the process.

6.2 Incident/Accident Analysis Team Makeup

Although team membership may vary according to the type of incident, a typical team analyzing an incident/accident may include:

1. A third-line or higher supervisor from the section where the event occurred;
2. Personnel from an area not involved in the incident;
3. An engineering and/or maintenance supervisor;
4. The safety supervisor;
5. A first-line supervisor from the affected area;
6. Occupational health/environmental personnel;
7. Appropriate wage personnel (i.e., operators, mechanics, technicians); and,
8. Research and/or technical personnel.

Team member	Department	Shift	Phone
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

6.3 The Incident/Accident Analysis Team Leader

The incident/Accident Analysis team leader will:

1. Control the scope of team activities by identifying which lines of analysis should be pursued, referred to another group for study, or deferred;
2. Call and preside over meetings;
3. Assign tasks and establish timetables;
4. Ensure that no potentially useful data source is overlooked; and,
5. Keep site management advised of the progress of the analysis process.

Safety & Health Management System (SHMS) Accident Analysis Form

This document covers the four areas that should be reviewed in determining the root cause of hazards, accidents and incidents. It is not uncommon to find factors in each of the four areas: Management, Employee, Equipment and Environment.

Yes No

Management Checklist

- Did supervisor detect, anticipate, or report an unsafe or hazardous condition?
- Did supervisor recognize deviations from the normal job procedure?
- Did the supervisor and employees participate in job review sessions especially for those jobs performed on an infrequent basis?
- Were supervisors made aware of their responsibilities for the safety of their work areas and employees?
- Were supervisors properly trained in the principles of accident prevention?
- Was there any history of personnel problems or any conflicts with or between supervisor and employees or between employees themselves?
- Did the supervisor conduct regular safety meetings with his or her employees?
- Were the topics discussed and actions taken during the safety meetings recorded in the minutes?
- Were the proper resources (e.g., equipment, tools, materials, etc.) required to perform the job or task readily available and in proper condition?
- Did the supervisors ensure employees were trained and proficient before assigning them to their jobs?
- Did management properly research the background and experience level of employees before extending an offer of employment?

Question #

Comments:

_____	_____
_____	_____
_____	_____
_____	_____

SHMS ACCIDENT ANALYSIS: Employee Checklist

Yes	No	
		Did a written or well-established procedure exist for employees to follow?
		Did job procedures or standards properly identify the potential hazards of job performance?
		Were employees familiar with job procedures?
		Was there any deviation from the established job procedures?
		Did any mental or physical conditions prevent the employee(s) from properly performing their jobs?
		Were there any tasks in the job considered more demanding or difficult than usual (e.g., strenuous activities, excessive concentration required, etc.)?
		Was the proper personal protective equipment specified for the job or task?
		Were employees trained in the proper use of any personal protective equipment?
		Did the employees use the prescribed personal protective equipment?
		Were employees trained and familiar with the proper emergency procedures, including the use of any special emergency equipment?
		Was there any indication of misuse or abuse of equipment and/or materials at the accident site?
		Is there any history or record of misconduct or poor performance for any employee involved in this accident?
		If applicable, are all employee certification and training records current and up-to-date?
		Was there any shortage of personnel on the day of the accident?

Question # Comments:

SHMS ACCIDENT ANALYSIS: Equipment Checklist

Yes	No	
		Were there any defects in equipment (including materials and tools) that contributed to a hazard or created an unsafe condition?
		Were the hazardous or unsafe conditions recognized by management, employees, or both?
		Were the recognized hazardous conditions properly reported?
		Are existing equipment inspection procedures adequately detecting hazardous or unsafe conditions?
		Were the proper equipment and tools being used for the job?
		Were the correct/prescribed tools and equipment readily available at the job site?
		Did employees know how to obtain the proper equipment and tools?
		Did equipment design contribute to operator error?
		Was all necessary emergency equipment readily available?
		Did emergency equipment function properly?
		Is there any history of equipment failure for the same or similar reasons?
		Has the manufacturer issued warnings, Safe-Alerts, or other such information pertaining to this equipment?
		Were all equipment guards and warnings functioning properly at the time of the accident?

Question # Comments

SHMS ACCIDENT ANALYSIS: Environment Checklist

Yes	No	
		Did the location of the employees, equipment, and/or materials contribute to the accident?
		Were there any hazardous environmental conditions that may have contributed to the accident?
		Were the hazardous environmental conditions in the work area recognized by employees or supervision?
		Were any actions taken by employees, supervisors, or both to eliminate or control environmental hazards?
		Were employees trained to deal with any hazardous environmental conditions that could arise?
		Were employees not assigned to a work area present at the time of the accident?
		Was sufficient space provided to accomplish the job?
		Was there adequate lighting to properly perform all the assigned tasks associated with the job?
		Did unacceptable noise levels exist at the time of the accident?
		Was there any known leak of hazardous materials such as chemicals, solvents or air contaminants?
		Were there any physical environmental hazards, such as excessive vibration, temperature extremes, inadequate air circulation, or ventilation problems?
		If applicable, were there any hazardous environmental conditions, such as inclement weather, that may have contributed to the accident?
		Is the layout of the work area sufficient to preclude or minimize the possibility of distractions from a passerby or from other workers in the area?
		Is there a history of environmental problems in this area?

Question # Comments

Attributes of Excellence for a Safety and Health Management System

➤ **Written Safety and Health Policy**

- a. There is a policy that promotes safety and health.
- b. The policy is available in writing.
- c. The policy is straight forward and absolutely clear.
- d. Senior management supports and communicates the policy.
- e. The policy can be easily explained or paraphrased by others within the workforce.
- f. The safety and health policy is expressed in the context of other organizational values.
- g. The policy statement goes beyond compliance to address the safety behavior of all members of the organization.
- h. The safety and health policy guides all employees in making a decision in favor of safety and health when apparent conflicts arise with other values and priorities.
- i. Organizational policies effectively promote the performance of safety and health responsibilities by all personnel.

➤ **Clear Safety and Health Goals and Objectives Set and Communicated**

- a. A set of safety and health goals exists in writing.
- b. The goals relate directly to the safety and health policy or vision.
- c. The goals incorporate the essence of "a positive and supportive safety system integrated into the workplace culture" into its language.
- d. The goals are supported by senior management and can be easily explained or paraphrased by others within the workplace.
- e. Safety and health goals and supporting objectives that focus on specific actions to establish or improve the overall safety and health program exist.
- f. The objectives relate to deficiencies identified on the Form 33 or on a comparable assessment tool.
- g. The objectives are clearly assigned to responsible individual(s).
- h. A measurement system exists which reliably indicates progress on objectives and action plans toward the goal.
- i. The measurement system is consistently used to manage work on objectives.
- j. Others can easily explain the objectives within the workplace.
- k. The workforce knows measures used to track objective progress.
- l. Members of the workforce are active participants in the objectives process.

➤ **Management Leadership**

- a. The positive influence of management is evident in all elements of the safety and health program.
- b. Managers support fair and effective policies that promote safety and health performance by all personnel
- c. Members of the workforce perceive and can give examples of management to be exercising positive leadership.
- d. Management considers proficient safety and health staff to be an advisory resource provided (as needed) to .line managers and supervisors with direct oversight of safety and health performance.

➤ **Authority for Safety and Health**

- a. Authority to meet assigned responsibilities exists for all personnel.
- b. Authority is granted in writing.
- c. Authority is exclusively within the control of the individual holding the responsibility.
- d. Personnel believe they *actually have* the authority granted to them.
- e. Personnel understand *how to exercise* the authority granted to them.
- f. Personnel have the will *to exercise* the authority granted to them.
- g. Responsibilities are being met appropriately and on time.

➤ Resources for Safety and Health

- a. Managers ensure that appropriate resources (personnel, methods, equipment, and funds) are fully provided to personnel to support the safety and health management systems.
- b. Necessary resources are exclusively within the control of the individual holding the responsibility.
- c. All personnel are effectively applying resources in order to meet responsibilities.

➤ Accountability

- a. An accountability mechanism is included with each assignment of safety and health tasks to monitor performance.
- b. All personnel are held accountable for meeting their safety and health responsibilities.
- c. Methods exist for monitoring performance of responsibilities.
- d. Failure to meet assigned responsibilities is addressed and results in appropriate coaching and/or negative consequences.
- e. Personnel meeting or exceeding responsibilities are appropriately reinforced for their behavior with positive consequences.
- f. Data related to key elements of safety and health performance are accumulated and displayed within the workplace to inform all personnel of progress being made.
- g. Accountability data is used by individuals and teams to revise goals and objectives so as to facilitate continuous improvement in safety and health.

➤ Management Example

- a. All managers understand and follow the safety and health rules of the organization and model the safe behaviors they expect from others.
- b. Managers throughout the organization consistently participate in planning and evaluating safety and health performance to drive continuous improvement.
- c. Members of the workforce perceive management to be consistently setting positive examples and can illustrate why they hold these positive perceptions.
- d. Members of management at all levels consistently address the safety behavior of others by coaching and correcting poor behavior and positively reinforcing good behavior.
- e. Members of the workforce credit management with establishing and maintaining positive safety values in the organization through their personal example and attention to the behavior of others.

➤ Company- Specific Work Rules

- a. The rules are clearly written.
- b. The rules relate to the safety and health policy.
- c. The rules address potential hazards.
- d. Safe work rules are understood and followed as a result of training and accountability.
- e. Top management supports work rules as a condition of employment.
- f. Methods exist for monitoring performance.
- g. All personnel, including managers, are held accountable to follow the rules.
- h. Employees have significant input to the rules.
- i. Workers have authority to refuse unsafe work.
- j. Workers are allowed access to information needed to make informed decisions.
- k. Documented observations demonstrate that employees at all levels are adhering to safe work rules.

➤ Employee Involvement

- a. Employees accept personal responsibility for ensuring a safe and healthy workplace.
- b. The employer provides opportunities and mechanism(s) for employees to influence safety and health program design and operation.
- c. Workers routinely participate in hazard detection, hazard prevention and control, and in safety and health training activities.
- d. There is evidence of management support of employee safety and health interventions.
- e. Employees have a substantial impact in the planning, design, and operation of the safety and health program.
- f. There are multiple avenues for employee participation without.
- f. The avenues are well known, understood, and utilized by employees.
- g. The avenues and mechanisms for involvement are effective in reducing accidents and enhancing safe behaviors.

➤ Structured Safety and Health Forum That Encourages Employee Involvement

- a. A written Charter or SOP outlines the safety committee structure and other forums.
- b. There is a structured safety and health forum that encourages workers to provide input in all aspects of the safety and health program without barriers.
- c. Meetings are planned, using an agenda, and remain focused on safety and health.
- d. They hold regularly scheduled safety committee and/or crew meetings.
- e. Employees throughout the company are aware of the forums.
- f. Employees on the committee are actively participating and contributing to discussion (also at crew meetings). g. Minutes are kept and made available to all employees.
- h. Upper management actively participates in committee and crew meetings.
- i. A method exists for systematic tracking of recommendations, progress reports, resolutions, and outcomes. j. Employees are involved in selecting topics.
- k. Participation in the committee is respected and valued in the organization.
- l. The safety committee is supplemented with other forums like crew and toolbox meetings as needed.
- m. Clear roles and responsibility are established for the committee and officers.
- n. There are open lines of communication between workers and forum meetings.
- o. The Safety Committee analyzes safety and health hazards to identify deficiencies in the Injury and Illness Prevention Program.
- p. The safety committee makes an annual review of the Injury and Illness Prevention Program.
- q. Reviewed results are used to make positive changes in policy, procedures and plans.
- r. The review includes all facets of the facility.

➤ Hazard Reporting System

- a. An effective system for employee hazard reporting is in place for early identification of hazards.
- b. The system allows for the reporting of physical and behavioral hazards and is known to all employees.
- c. Supervisors and managers actively encourage use of the system and employees feel comfortable using the system in all situations.
- d. The system provides for self-correction through empowerment.
- e. The system involves employees in correction planning, as appropriate.
- f. The system provides for rapid and regular feedback to employees on the status of evaluation and correction. g. Employees are consistently reinforced for using the system.
- h. Appropriate corrective action is taken promptly on all confirmed hazards.
- i. Interim corrective action is taken immediately on all confirmed hazards where delay in final correction will put employees or others at risk.
- j. The system provides for data collection and display as a means to measure the success of the system in resolving identified hazards.

➤ Hazard Identification (Expert Survey)

- a. A comprehensive baseline hazards assessment for the workplace is current and up to date.
- b. Hazard surveys are completed at appropriate intervals, with consideration to more frequent surveys in more hazardous, complex, and highly changing environments.
- b. The surveys are performed by individuals competent in hazard identification and control, especially with hazards that are present at the worksite.
- c. The hazard survey drives immediate corrective action on items found.
- d. The survey results in optimum controls for hazards found.]
- e. The survey results in updated hazard inventories.

➤ Hazard Identification (Change Analysis)

- a. Operational changes in space, processes, materials, or equipment at the facility are planned.
- b. Planned operational changes are known to responsible management and affected workers during the planning process.
- c. A comprehensive hazard review process exists and is used for all operational changes.
- d. The comprehensive hazard review process involves competent, qualified specialists appropriate to the hazards anticipated and the operational changes being planned.
- e. Members of the affected workforce actively participate in the comprehensive hazard review process.
- f. All jobs, processes, or phases of activity are analyzed whenever there is a change, when a loss incident occurs, or on a schedule of no more than three years.
- g. The comprehensive hazard review process results in recommendation for enhancement or improvement in safety and health elements of the planned operational change which are accepted and implemented prior to operational start-up.
- h. Changes in the workplace are always effectively analyzed for their impact on occupational safety and health before implementation.
- i. Safety Data Sheets (SDS) and labels are used to assess potential hazards associated with chemical products introduced into the workplace.

➤ Hazard Identification (Job Hazard Analysis)

- a. Members of management and of the workforce are aware that hazards can develop within existing jobs, processes and/or phases of activity.
- b. One or more hazard analysis systems designed to address routine job, process, or phase hazards is in place at the facility.
- c. All jobs, processes, or phases of activity are analyzed using the appropriate safety or health hazard analysis systems.
- d. All hazard analyses identify corrective or preventive action to be taken to reduce or eliminate the risk of injury or loss, where applicable.
- e. Effective job hazard analysis is routinely performed to reduce or eliminate potential for injury or illness.
- f. All corrective or preventive actions identified by the hazard analysis process have been implemented.
- g. Upon implementation of the corrective or preventive actions identified by the appropriate safety or health hazard analysis process, the written hazard analysis is revised to reflect those actions.
- h. All members of the workforce have been trained on the use of appropriate hazard analysis systems.
- i. A representative sample of employees is involved in the analysis of the job, process, or phase of activity which applies to their assigned work.
- j. All members of the workforce have ready access to, and can explain the key elements of, the hazard analysis, which applies to their work.
- k. Safety Data Sheets (SDS) and labels are used to assess potential hazards associated with chemical products associated with particular jobs or tasks.

➤ Hazard Identification (Routine Inspection)

- a. Inspections of the workplace are conducted in all work areas to identify new, reoccurring, or previously missed safety or health hazards and/or failures in hazard control systems.
- b. Inspections are conducted routinely at an interval determined necessary based on previous findings or industry experience (at least quarterly at fixed worksites, weekly at rapidly changing sites such as construction, as frequently as daily or at each use where necessary).
- c. Personnel at all levels of the organization are routinely involved in safety and health inspections.
- d. All personnel involved in inspections have been trained in the inspection process and in hazard identification.
- e. Standards exist which outline minimum acceptable levels of safety and health and which are consistent with federal OSHA or state safety and health requirements, where they exist.
- f. Standards cover all work and workplaces at the facility and are readily available to all members of the workforce.
- g. All personnel involved in inspections have been trained on the workplace safety and health standards and demonstrate competence in the standards and their application to the worksite.
- h. All inspections result in a written report of hazard findings, where applicable.
- i. All written reports of inspections are retained for a period required by law or sufficient to show a clear pattern of inspections.
- j. Statistical summaries of all routine inspections are prepared, charted, and distributed to management and the workforce so as to show status and progress at hazard elimination.

➤ Hazard Controls

- a. Hazard controls are in place and used at the facility to protect workers from hazards.
- b. Hazard controls are selected in appropriate priority order, giving preference to engineering controls, safe work procedures, administrative controls, and personal protective equipment (in that order).
- c. Once identified, hazards are promptly eliminated or controlled and a plan is in place to monitor the timely correction of identified hazards.
- d. Effective monitoring or surveillance of established hazard control measure is conducted to routinely verify that selected hazard controls continue to function as intended.
- e. Employees participate in developing and implementing methods for the elimination or control of hazards in their work areas.
- f. Employees are fully trained in the use of controls and ways to protect themselves in their work area, and utilize those controls.
- g. Effective housekeeping is routinely practiced throughout the facility to eliminate or control hazards.

➤ Emergency Preparation

- a. All potential emergency situations that may impact the facility are identified.
- b. A facility plan to deal with all potential emergencies has been prepared in writing.
- c. The plan incorporates all elements required by law, regulation, and local code (including the requirements of 1910.38, 1910.119, 1910.120, and RCRA, where applicable).
- d. The plan is written to complement and support the emergency response plans of the community and adjacent facilities.
- e. The plan is current and communicated to all personnel.
- f. All personnel at the facility can explain their role under the plan and can respond correctly under exercise or drill situations.
- g. Community emergency response commanders know the plan.
- h. The plan is tested regularly with drills and exercises.
- i. Community emergency responders are involved, where appropriate, in the facility drills and exercises.
- j. The plan is implemented immediately when an emergency at or impacting the facility is known.
- k. The plan is effective at limiting the impact of the emergency on the facility and the workforce.

➤ **Emergency Communication**

- a. Emergency communications systems are installed at the facility.
- b. The communication systems are operational and redundant (such as alarm boxes, emergency telephones, PA systems, portable radios).
- c. The communication systems are tested at regular intervals (at least monthly).
- d. Exit signs, evacuation maps, and other emergency directions are installed at the facility.
- e. Emergency directions are available, correct and accurate in all spaces, corridors, and points of potential confusion.
- f. Personnel are aware of the emergency directions and can accurately describe the action they are to take in an emergency based on the directions available to them in their work area.
- g. Emergency equipment appropriate to the facility (including sprinkler systems, fire extinguishers, first aid kits, fire blankets, safety showers and eye washes, emergency respirators, protective clothing, spill control and clean-up material, chemical release computer modeling, etc.) is installed or available.)
- h. Emergency equipment is distributed in sufficient quantity to cover anticipated hazards and risks, is operational, and is tested at regular intervals (at least monthly).
- k. Appropriate personnel at the facility are trained in the use of emergency equipment available to them and can demonstrate the proper use of the equipment.

➤ **Emergency Medical Assistance**

- a. The facility has a plan for providing emergency medical care to employees and others present on the site.
- b. The plan provides for competent emergency medical care, which is available on all shifts of work.
- c. Competent emergency medical care, when needed, is actually provided in accordance with the plan.
- d. All emergency medical delivery is done in accordance with standardized protocols.
- e. Competent emergency medical care, if provided on site, is certified to at least the basic first aid and CPR levels.
- f. Off-site providers of emergency medical care, if utilized, are medical doctors, registered nurses, paramedics, emergency medical technicians or certified first responders.
- g. All members of the workforce are aware of how to obtain competent emergency medical care.

➤ **Facility/Equipment Maintenance**

- a. A preventive maintenance program is in place at the facility.
- b. Effective preventive and predictive maintenance is routinely performed to ensure that facilities and equipment are in good working order.
- b. Manufacturers or builder's routine maintenance recommendations have been obtained and are utilized for all applicable facilities, equipment, machinery, tools, and/or materials.
- c. The preventive maintenance system ensures that maintenance for all operations in all areas is actually conducted according to schedule.
- d. Operators are trained to recognize maintenance needs and perform or order maintenance on schedule.

➤ **Accident/Incident Investigation and Control**

- a. Workplace policy requires the reporting of all actual and "near miss" accidents.
- b. All members of the workforce are familiar with the policy on accident/incident reporting.
- c. All accidents and incidents are reported as required by policy.
- d. Workplace policy requires a thorough investigation of all accidents and incidents to determine cause.
- e. All accidents and incidents are investigated as required by policy.
- f. All investigations are conducted by personnel trained in accident/incident investigation techniques.
- g. All investigations include input from impacted parties and witnesses, where possible.
- h. All investigations determine "root causes".
- i. Written recommendations designed to adequately address root causes are made as a result of all investigations and result in prompt corrective action.
- j. Completed investigative reports are routed to appropriate levels of management and knowledgeable staff (including the safety committee) for review and are provided promptly to government officials, as required, in accordance with law and applicable standards.

➤ **Injury/Illness Analysis**

- a. A system exists which tracks trends in safety and health at the facility.
- b. The system addresses trailing indicators, including accidents, occupational injuries and illnesses, hazards identified, and complaints from employees and others.
- c. The system addresses leading indicators of safety and health effectiveness, including employee attitudes and employee behaviors.
- d. All personnel at the facility are aware of the need to provide incident and activity information to the system, and do so systematically, accurately, and consistently.
- e. An individual, or group, is assigned responsibility for compiling and analyzing records for safety and health trends. f. Trend data is consistently provided to all facility personnel.
- g. All personnel are fully aware of safety and health trends, causes, and means of prevention.
- h. Trend data is utilized to drive improvement and prevention activities.
- i. Employees are active participants in the determination of collection methods, collection, analysis, and intervention selection.

➤ **Employees Learn Hazards, How to Protect Themselves and Others**

- a. An employee orientation program covers appropriate safety and health information prior to starting work.
- b. All workers receive appropriate and effective safety and health training in a language and literacy level that they understand before starting (or changing) work and before changes in the workplace are implemented.
- b. The training is provided to all employees prior to beginning work, unless proficiency in the knowledge and skills being taught have been effectively demonstrated.
- c. The training covers all legally-required subjects.
- d. The training covers hazards (awareness, location, identification, and protection or elimination).
- e. The training covers the facility safety systems (policy, goals and objectives, operations, tools and techniques, responsibilities, and system measurement).
- f. Training is regularly evaluated for effectiveness and revised accordingly.
- g. Post-training knowledge and skills are tested or evaluated to ensure employee proficiency in the subject matter.
- h. The training system ensures that knowledge and skills taught are consistently and correctly applied by employees.

➤ **Understanding Assigned Safety and Health Responsibilities**

- a. All elements of the company's safety and health program are specifically assigned to a job or position for coordination.
- b. Assignments are in writing.
- c. Each assignment covers broad performance expectations.
- d. All personnel with program assignments are familiar with their responsibilities.

➤ **Supervisors Know Safety and Health Responsibilities and Underlying Reasons**

- a. All supervisors receive appropriate and effective safety and health training to oversee workers and can demonstrate knowledge of the benefits of a safety and health program to the business.
- b. The training is provided to all supervisors, unless proficiency in the knowledge and skills being taught has been effectively demonstrated.
- c. The training covers all subject matter delivered to employees to the extent necessary for supervisors to evaluate employee knowledge and skills and to reinforce or coach desired employee safety and health behaviors.
- d. The training covers the facility safety systems (policy, goals and objectives, operations, tools and techniques, responsibilities, and system measurement).
- e. The training covers supervisory safety and health responsibilities.
- f. Training is regularly evaluated for effectiveness and revised accordingly.
- g. Post-training knowledge and skills are tested or evaluated to ensure supervisory proficiency in the subject matter.
- h. The training system ensures that knowledge and skills taught are consistently and correctly applied by supervisors.

➤ **Managers/Supervisors Learn Safety and Health Program Management**

- a. Managers receive appropriate and effective safety and health training to fulfill their role and demonstrate knowledge in the benefits of a safety and health management system to the business.
- b. The training is provided to all managers, unless proficiency in the knowledge and skills being taught have been effectively demonstrated.
- c. The training covers all subject matter delivered to employees and supervisors to the extent necessary for managers to evaluate employee and supervisory knowledge and skills and to reinforce or coach desired safety and health behaviors.
- d. The training covers the facility safety systems (management concepts and philosophies, policy, goals and objectives, operations, tools and techniques, and system measurement).
- e. The training covers management safety and health roles and responsibilities.
- f. Training is regularly evaluated for effectiveness and revised accordingly.
- g. Post-training knowledge and skills are tested or evaluated to ensure management proficiency in the subject matter.
- h. The training system ensures that knowledge and skills taught are consistently and are correctly applied by managers.

➤ **Safety and Health Management System Evaluation and Improvement**

- a. The entire Safety and Health Management System is reviewed at least annually.
- b. The criteria for the review is against the Oregon OSHA Safety and Health Program Guidelines or other recognized consensus criteria in addition to the facility goal and objectives and any other facility-specific criteria.
- c. The review samples evidence over the entire facility or organization.
- d. The review examines written materials, the status of goals and objectives, records of incidents, records of training and inspections, employee and management opinion, observable behavior and physical conditions.
- e. The review evaluates **trailing indicators**, including accidents, occupational injuries and illnesses, hazards identified, and complaints from employees and others.
- f. The review evaluates **leading indicators** of safety and health effectiveness, including worker participation, employee attitudes, and employee behaviors.
- g. Review is conducted by an individual (or team) determined competent in all applicable areas by virtue of education, experience, and/or examination.
- h. The results of the review are documented and communicated to drive appropriate changes or adjustments in the program.
- i. Identified deficiencies are addressed and do not appear on subsequent reviews as deficiencies.
- j. A process exists which allows deficiencies in the program to become immediately apparent and corrected in addition to a periodic comprehensive review.
- k. Evidence exists which demonstrates that program recommendations actually result in the reduction or elimination of accidents.

➤ **Communication and Coordination of the Safety and Health Management System**

- a. All aspects of the Safety and Health Management System are communicated to and coordinated with each shift, work group and department to minimize confusion and maximize safety and health performance.
- b. When the employer brings in outside workers (contractors or temporary staff) the communication and coordination efforts will cover each of those entities.
- c. The communication and coordination efforts will ensure that all workers understand the types of hazards that may be present, in the workplace before they begin work.
- d. The communication and coordination efforts will ensure that all workers understand the preferred means and methods to be used to avoid or control their exposure to those hazards, before their work begins.
- e. The communication and coordination efforts will ensure that all workers understand how to report injuries, illnesses, incidents and concerns, as well as who to report them to, prior to commencement of work.

SAFETY AND HEALTH PROGRAM

(Division 7 - Forest Activities)

437-007-0100 Safety and Health Program. Every employer must implement a written safety and health program that establishes management commitment, supervisory responsibilities, accident investigation, employee involvement, hazard identification, training, and annual evaluation of the program.

437-007-0105 Management Commitment. The employer must:

- (1) State the purpose of the safety and health program.
- (2) Identify the safety and health personnel and resources that will be used to implement the program.
- (3) Establish a labor and management policy that provides for ongoing evaluation of employees' safety performance.
- (4) Establish a disciplinary policy to address unsafe work practices.
- (5) Assign the responsibility, authority and accountability for worker safety and health to all employees who supervise or direct work activity.
- (6) Authorize a competent person(s) for each jobsite who has the authority to:
 - (a) Supervise all personnel at the site.
 - (b) Enforce the company's safety and health program.

437-007-0110 Supervisory Responsibilities. The employer or their authorized representative must:

- (1) Supervise all employees at the site and enforce the company's safety and health program.
- (2) Verify that all current and new employees:
 - (a) Can safely perform assigned work tasks.
 - (b) Have received adequate job safety instruction and training.
- (3) Periodically review the safety performance of each employee.
- (4) Provide job safety and health instruction, training or disciplinary action to an employee when the employee is working in an unsafe manner.

NOTE: This training can be limited to the specific information needed to correct the unsafe work practice(s).

- (5) Closely supervise each employee who is receiving job safety and health instruction and training.
- (6) Require all employees to demonstrate the ability to safely perform their work task before permitting them to work independently.

437-007-0125 Accident Investigation. The employer or their authorized representative must:

- (1) Investigate every employee fatal and recordable injury/illness to determine the cause(s).
- (2) Discuss “near misses” with employees.
- (3) Identify the measures to prevent recurrence of the “near misses,” fatal and recordable injury/illness.
- (4) Inform all employees of the preventive measures resulting from investigations.
- (5) Take steps to prevent recurrence of similar “near misses,” fatal and recordable injury/illness.
- (6) Keep written results of the fatal and recordable injury/illness investigations and corrective measures for 3 years.

437-007-0130 Employee Involvement. The employer or their authorized representative must:

- (1) Encourage employees to participate in site planning and the pre-work safety meeting to discuss site conditions and known hazards.
- (2) Require employees to report safety and health hazards.
- (3) Require qualified employees to take corrective action and eliminate hazards.
- (4) Conduct monthly safety meetings with all employees.
 - (a) Keep written minutes and attendance records for 3 years.
 - (b) Make written minutes and attendance records available to all employees.

NOTE: Meetings may be with individuals, separate crews, or larger groups.

437-007-0135 Hazard Identification and Control. The employer or their authorized representative must:

- (1) Implement a procedure for monthly safety inspections of all worksites, vehicles, machines, equipment, and work practices.
- (2) Identify who will complete monthly safety inspections.
- (3) Implement procedures that will be used to report and correct hazardous conditions.

437-007-0140 Training. The employer or their authorized representative must:

- (1) Provide job safety and health instruction and training to current and new employees, including supervisors, that is adequate for the work task. They must receive training before:
 - (a) Starting their initial work assignment, or
 - (b) Being assigned new work tasks, tools, equipment, machines, or vehicles.
- (2) Evaluate each employee who has previously received job safety and health instruction and training.

NOTE: An employee does not need to be retrained if their prior instruction and training are adequate.

- (3) Provide job safety and health instruction and training that includes the:
 - (a) Safe performance of assigned work tasks.
 - (b) Procedures, practices and requirements of the employer's work site.
 - (c) Recognition of safety and health hazards associated with each employee's specific work tasks, including measures and work practices to prevent or control those hazards.
 - (d) Safe use, operation and maintenance of tools, equipment, machines and vehicles each employee uses or operates, including following the manufacturer's operating and maintenance instructions, warnings and precautions.
 - (e) Requirements of this standard and hazards of the industry.
- (4) Require each employee receiving job safety and health instruction and training to:
 - (a) Work under the close supervision of a qualified person.
 - (b) Demonstrate to the employer or his authorized representative the ability to safely perform the work assignment before they are permitted to work independently.
- (5) Assure that a qualified person(s) presents the job safety and health instruction and training.
- (6) Assure that job safety and health instruction and training is:
 - (a) Presented in a language and manner that the employee(s) is able to understand.
 - (b) Appropriate in content for the skill level of the employee(s) being trained.
- (7) Keep a current written record of job safety and health instruction and training for each employee that contains the following:
 - (a) Who was instructed or trained.
 - (b) The date(s) of the instruction or training.
 - (c) A description of the training.
 - (d) The name of the trainer.

437-007-0145 Annual Program Evaluation.

- (1) Each employer must review and evaluate their safety and health program annually.
- (2) The program evaluation must include the methods and procedures used to identify and revise program deficiencies.
- (3) Written findings of the annual evaluation must be maintained for 3 years from the date of issue.



<https://www.osha.gov/etools>

\$ A F E T Y P A Y S ! OSHA Advisor

Estimated Costs of Occupational Injuries and Illnesses and Estimated Impact on a Company's Profitability

Report for Year: 1999

Employer: XYZ Inc.

Prepared by: I. B. Safe, Safety Coordinator, on January 28, 2000

The injury or illness selected: Strain

Average insured Cost:	\$5,945
Average uninsured Cost:	\$7,134
Estimated Total Cost:	\$13,079
The net profit margin for this company is	4%
The ADDITIONAL sales necessary	
- to cover uninsured Costs are:	\$178,350
- to cover Total Costs are:	<u>\$326,975</u>

\$AFETY PAYS is a tool developed by OSHA to assist employers in assessing the impact of occupational injuries and illnesses on their profitability. It uses a company's profit margin, the AVERAGE costs. Since AVERAGES are used, the actual costs may be higher or lower. Costs used here do not reflect the pain and suffering of injuries and illnesses.

The cost of the injury and illness data were provided to OSHA by Argonaut Insurance Company and based on 53,000 claims for 1992-94.

The TOTAL ADDITIONAL SALES required by these 3 incidents is estimated to be between:

\$326,975

OSHA Hazard Awareness Advisor

The OSHA Hazard Awareness Advisor is designed to help general industry employers and workers identify possible safety and health hazards in their workplace, and to direct users to OSHA standards addressing those hazards. It should be particularly helpful to small employers without the means to hire safety and health professionals to evaluate their workplace.

Employers of workers engaged in construction, agriculture and maritime industries are covered by other OSHA regulations. While users in those industries might benefit from using the Advisor, it does not directly address conditions in those industries nor does it identify OSHA regulations covering those industries.

How the Advisor works

The Advisor will ask a series of questions designed to identify your potential hazards. Following the questions, the Advisor will prepare a text report identifying hazards that may be present in your workplace, providing best practices or strategies to control them, and listing applicable standards which you can later review.

POLICY STATEMENT WORKSHEET

Policy statements can vary in length and content. The briefest are typically basic statements of policy only. Longer statements may include company philosophy. Still others will address the safety and health responsibilities of management and other employees.

Some policy statements will cover in detail items such as specific assignment of safety and health duties, description of these duties, delegation of authority, safety and health rules and procedures, and encouragement of employee involvement. While some companies may wish to include these additional items in the policy statement, OSHA believes it usually is best to leave these details for later discussion.

This worksheet is designed to help you develop your safety and health policy statement. It contains examples of specific statements often found in safety and health policies. These are examples only, but they may give you ideas for a policy statement that expresses your style, your attitudes and your values.

INTRODUCTORY STATEMENT

The written policy statement generally starts with a clear, simple expression of your concern for and attitude about employee safety and health. Examples of introductions of policy statements include:

This company considers no phase of its operation or administration more important than safety and health. We will provide and maintain safe and healthful working conditions, and we will establish and insist on safe work methods and practices at all times.

Accident prevention is a primary job of management, and management is responsible for establishing safe and healthful working conditions.

This company has always believed that our employees are our most important asset. We will always place the highest priority on safe operations and on the safety and health of employees.

The company will, at all times and at every level of management, attempt to provide and maintain a safe and healthful working environment for all employees. All safety and health protection programs are aimed at preventing accidents and exposures to harmful atmospheric contaminants.

All members of management and all employees must make safety and health protection a part of their daily and hourly concern.

PURPOSE/PHILOSOPHY

An effective safety and health program will have a stated purpose or philosophy. This is included in the written policy statement so that both you and your employees are reminded of the purpose and value of the program. You may wish to incorporate into your policy such statement as:

We have established our safety and health program to eliminate employee work-related injuries and illnesses. We expect it to improve operations and reduce personal and financial losses.

Safety and health protection shall be an integral part of all operations including planning, procurement, development, production, administration, sales and transportation. Accidents and health hazard exposures have no place in our company.

We want to make our safety and health protection efforts so successful that we make elimination of accidents, injuries and illnesses a way of life.

We aim to resolve safety and health problems through prevention.

We will involve both management and employees in planning, developing, and implementing safety and health protection.

MANAGEMENT RESPONSIBILITIES

Your safety and health action plan will describe in detail who is to develop the program and make it work, as well as who is assigned specific responsibilities, duties and authority. The policy statement may include a summary of these responsibilities.

For example:

Each level of management must reflect an interest in company safety and health and must set a good example by complying with company rules for safety and health protection. Management interest must be vocal, visible and continuous from top management to departmental supervisors. The company management is responsible for developing an effective safety and health program.

Plant superintendents are responsible for maintaining safe and healthful working conditions and practices in areas under their jurisdiction.

Department heads and supervisors are responsible for preventing accidents and health hazard exposures in their departments.

Foremen are responsible for preventing accidents and health hazard exposures on their lines.

Supervisors will be accountable for the safety and health of all employees working under their supervision.

The Safety Director has the authority and responsibility to provide guidance to supervisors and to help them prevent accidents and exposure to health hazards.

Management representatives who have been assigned safety and health responsibilities will be held accountable for meeting those responsibilities.

EMPLOYEE RESPONSIBILITIES

Many companies acknowledge the vital role of their employees in the operation of a successful safety and health program by summarizing employee roles and contributions in the policy statement. Here are some examples:

All employees are expected to follow safe working practices, obey rules and regulations, and work in a way that maintains the high safety and health standards developed and sanctioned by the company.

All employees are expected to give full support to safety and health protection activities.

Every employee must observe established safety and health regulations and practices, including the use of personal protective equipment.

All employees are expected to take active interest in the safety and health program, participate in program activities, and abide by the rules and regulations of this company.

All employees must recognize their responsibility to prevent injuries and illnesses and must take necessary actions to do so. Their performance in this regard will be measured along with overall performance.

CLOSING STATEMENT

The closing statement is often a reaffirmation of your commitment to provide a safe and healthful workplace. It also may appeal for the cooperation of all company employees in support of the safety and health program.

I urge all employees to make this safety and health program an integral part of their daily operations.

By accepting mutual responsibility to operate safely, we all will contribute to the well-being of one another and consequently the company.

We must be so successful in our efforts that total elimination of accidents, injuries and illnesses becomes a way of life.

SUMMARY

Generally, a written safety and health policy statement will run 6 to 12 sentences in length. It will include some or all of the five elements listed above: an **introductory** statement, a statement of the **purpose or philosophy** of the policy, a summary of **management responsibilities**, a summary of **employee responsibilities**, and a **closing statement**.

One example of a safety and health policy statement is:

This company considers no phase of its operation more important than safety and health protection. We will provide and maintain safe and healthful working conditions and establish and insist upon safe work methods and practices at all times. Safety and health shall be an integral part of all operations including planning, procurement, development, production, administration, sales, and transportation. Accidents have no place in our company. We will work consistently to maintain safe and healthful working conditions, to adhere to proper operating practices and procedures designed to prevent injury and illness, and to comply with Federal, state, local, and company safety and health regulations. Each level of management must reflect an interest in company safety and health objectives and is required to set a good example by always observing the rules as a part of the normal work routine. Management interest must be vocal, visible, and continuous, from top management to departmental supervisors. All employees are expected to follow safe working practices, obey rules and regulations, and work in a way that maintains the high safety and health standards developed and sanctioned by the company. We urge all employees to make our safety and health program an integral part of their daily operations. Then the total elimination of accidents and injuries will become not just an objective, but a way of life.



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