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Implementing a Shipyard Safety and Health Management System *(ISSHMS)*

Training for Shipyard Workers



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Course Overview

Introduction This course is designed to provide its participants knowledge in the requirements of implementing a shipyard-specific Safety and Health Management System.

**Design
Delivery
Strategy** The delivery will be:

- Instructor-led
- Video-supported
- Conducted in a classroom

Learners will be asked to participate and demonstrate skills and knowledge throughout the course.

Materials will include:

- Participant manual
- Facilitator guide
- Power point slides
- DVD
- English and Spanish versions

**Course
Objective** At the completion of this course, the trainee will pass a certification test.

**Learning
Progress** At the end of most lessons there will be practice exercises for the participants to complete.

**Evaluation
Strategy** This course will be considered successful if:

- There is a test certification rate of over 80% after the participant completes this course without remediation
- There is documentation that a Safety and Health Management System is in place in each of the participating organizations

Course Overview (Cont.)

Training Audience

This Course is designed to train:

- **First Preference**
 - Owner/President
 - Person responsible for the safety function

- **Second Preference**
 - Second in charge organizationally
 - Back-up safety person
 - Supervisors/Leads

- **Third Preference**
 - Production employees of subcontractor

- **Fourth Preference**
 - All other employees of subcontractor

It is anticipated that every company represented in each training class will meet the First Preference trainee category. There is no limit to the number of trainees a company can enroll in this training program.

Trainee Expectations

It is expected that each company representative (First or Second Preference) participating in this training program will have participants that will:

- Train this material to additional employees in their organization
 - Implement or update their Safety and Health Management System
-

Training Logistics

This training program will:

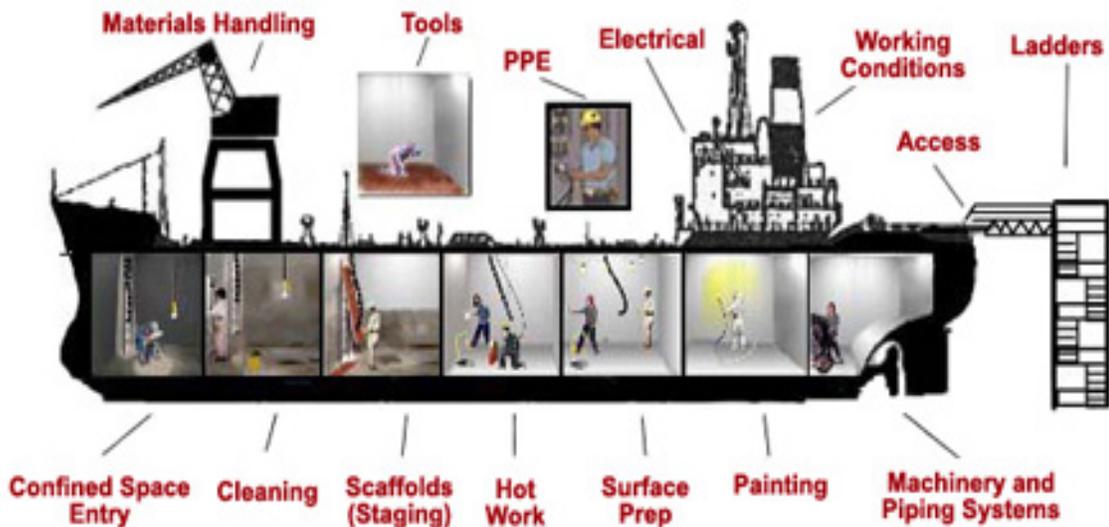
- Be conducted for 8 hours
 - Have four 10-minute breaks (2 in the morning and 2 in the afternoon)
 - Have a 30-minute lunch break
 - Start and end on time
 - Be conducted at the MSR's in San Diego, California.
-

Course Overview (Cont.)

Course Lessons

This section outlines the course lesson names

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Pre-Test

Class: Implementing a Shipyard Safety and Health Management System

Pre – Assessment

Multiple Choice: For each of the following questions, circle the letter that best answers the question.

1. What is a Safety and Health Management System?
 - A. [A set of interrelated elements that support occupational safety and health policy and objectives]
 - B. [Mechanisms that are in place to achieve safety objectives]
 - C. [Methods that are in place to continually improve safety and health performance]
 - D. [All of the above]

True or False: For each statement below, circle True or False.

- | | | |
|------|-------|--|
| True | False | 2. A Safety and Health Management System costs an employer more money, but it's worth it |
| True | False | 3. One benefit of implementing an effective Safety and Health Management System is that employee morale goes up |
| True | False | 4. The shipyard environment is more hazardous than most work environments |
| True | False | 5. To be most effective, safety and health must be balanced with, and incorporated into, an organization's other core business processes |
| True | False | 6. A systematic approach to safety seeks a long-term solution rather than a one-time fix. |

Matching: For each safety "responsibility" listed in the left column, identify who it *best applies to* in the right column. For Management use "M", for Supervisor use "S" and for Employee use "E".

Responsibility	Who
7. Create and drive the company culture	
8. Stop a co-worker from working on the deck plate in an unsafe manner	
9. Document and report near misses	

Pre-Test (Cont.)

Multiple Choice: For each of the following questions, circle the letter that best answers the question.

10. What are the most important factors in creating a culture of safe work practices?
- A. [Praise and Discipline]
 - B. [Networking and Compliance]
 - C. [Management Commitment and Employee Involvement]
 - D. [Decision Making and Problem Solving]

Identify and Circle: When providing safety training, OSHA has 6 documentation requirements. From the word bank below, circle those 6.

Word Bank (Questions 11-16)

<u>Department</u>	<u>Participant education level</u>	<u>Type of training</u>	<u>Length of time with company</u>
<u>Participant ethnicity</u>	<u>Number of hours of training</u>	<u>Verification that a person attended, such as a signature</u>	<u>Participant job title(s)</u>
<u>Date of the training</u>	<u>The OSHA standard referred to in the training</u>	<u>Class Level Beg./Inter./Adv</u>	<u>Who attended (name)</u>

Pre-Test (Cont.)

True or False: For each statement below, circle True or False.

- | | | | |
|------|-------|-----|--|
| True | False | 17. | Your Safety Procedure Manual should provide the required documentation conveying to your workforce what safe work practices should be followed and how to follow them. |
| True | False | 18. | Your Safety Procedure Manual must be written by a certified OSHA professional. |
| True | False | 19. | The entire Safety Procedure Manual must be accessible (within 50 feet) to all employees. |

Fill in the Blank: For each sentence below, write *the best* word or words from the work bank that correctly completes the sentence. Note, not all words in the Word Bank will be used and none will be used more than once.

Word Bank

Competence	Subcontractors	Orientation Training	Forklift Training
Training	Supervisors	Long-Term Employees	Replacing
Confined Space	Ability	Safety Technicians	Integrated

20. [_____ is a standardized requirement for an individual to properly perform a specific job.]
21. [_____ refers to the acquisition of knowledge, skills, and competencies as a result of the teaching of vocational or practical skills and knowledge that relate to specific useful competencies.]
22. [Training for _____ should emphasize the importance of their role in visibly supporting the safety and health program and setting a good example.]
23. [_____ is a training topic not often found in many industries but often found in the shipyard.]
24. [Safety training is most effective when _____ with a company's overall training in performance requirements and job practices.]
25. [_____ should be provided to both employees and contractors.]
-

Pre-Test (Cont.)

Multiple Choice: For each of the following questions, circle the letter that best answers the question.

26. To establish a culture of workplace safety, as well as to comply with Cal OSHA IIP Program, it is imperative that communication is not left to chance. Giving and receiving feedback with employees and contractors is vital. Therefore, organizations should implement and maintain a procedure for:
- A. [Praise and Discipline]
 - B. [Receiving, documenting and responding to relevant communications from external, interested parties]
 - C. [Instructions for the Safety Suggestion Box]
 - D. [Good Listening Skills]
27. Regarding Hazardous Communication, what is each employer *not* responsible for:
- A. [Providing a list of all company hazards to each employee in written form]
 - B. [Identify and list hazardous chemicals in their workplaces]
 - C. [Obtain MSDS's and labels for each hazardous chemical, if not provided by the manufacturer, importer or distributor]
 - D. [Implement a written HAZCOM program, including labels, MSDS's and employee training]
 - E. [Communicate hazard information to employees through labels, MSDS's and formal training programs]
28. Three important Hazard Identification processes are:
- A. [Audits conducted by OSHA]
 - B. [Walkaround Inspections]
 - C. [Comprehensive Survey]
 - D. [Observations]
 - E. [A,B and C]
 - F. [B, C and D]

Put In Order: Below are the steps used in conducting a Job Safety Analysis. Place them in the correct order by putting the number 1 in front of the first step, the number 2 in front of the second step, and so forth.

- 29. ___ Observing the task
 - 30. ___ Breaking the task down into activities or steps
 - 31. ___ Analyzing each step for safety or operational needs
 - 32. ___ Recommending procedures to meet those needs
-

Pre-Test (Cont.)

Matching: Regarding Hazard Controls, use the following table to complete questions 35-38 by filling in the “Type” below:

If I am an	Then write ...
Engineering Control	E
Administrative Control	A
PPE	P
Interim Control	I

Control	Type
33. I am tape holding down wiring	
34. I am a procedure limiting the time you can wear a respirator	
35. I am a hard hat	
36. I am a ventilation hood removing smoke in a confined space	

True or False: For each statement below, circle True or False.

- | | | |
|------|-------|---|
| True | False | 37. Every Emergency Preparedness and Response Plan will be the same, regardless of industry or location. |
| True | False | 38. An Emergency Preparedness and Response Plan should have the home phone number of your local OSHA representative. |
| True | False | 39. A staging (muster) area is an area where employees should gather during an emergency. |
| True | False | 40. To ensure effective document control, there should be one copy of the Emergency Preparedness and Response Plan in each shop, in a central location. |

Pre-Test (Cont.)

Matching: Regarding the Accident Investigation and Corrective Action Process, use the following table to complete the questions below:

Controlling the Scene	C
Gathering Data	G
Analyzing Data	A
Writing the Final Report	W
Implementing Corrective Action	I

Step in the Process	Process
41. Give an account of the accident--sequence of events, injuries, extent of damage, accident type and source.	
42. Review all photos, drawings, interview material and other information collected at the scene	
43. Stabilize existing hazards. This will prevent further injuries and identify if you need more help	
44. Identify the who, what, where, and when of the situation	
45. Training may be helpful	

Multiple Choice: For the following question, circle the letter that best answers the question.

46. When assessing your organization's safety performance, what are the key area(s) that OSHA suggests you focus?
- A. [Management Leadership and Employee Participation]
 - B. [Worksite Analysis]
 - C. [Hazard Prevention and Control]
 - D. [Safety and Health Training]
 - E. [All of the above]
-

Pre-Test (Cont.)

Matching: Based on the **PDCA Improvement Cycle**, use the following table to complete questions 47-50 filling in each “Phase” below.

If I am in the	Then write ...
“Plan” Phase	P
“Do” Phase	D
“Check” Phase	C
“Act” Phase	A

Activity	Phase
47. Involve everyone in the process	
48. Implement the change on a small scale	
49. Identify the potential improvement	
50. Measure to find out whether the change has accomplished the objective	

Lesson 1: Introduction

Introduction

An injury-free environment does not happen on its own. “Quality is never an accident; it is always the result of high intention, sincere effort, intelligent direction and skillful execution; it represents the wise choice of many alternatives.” - William A. Foster

A quality Safety and Health Management System implies a proactive approach to the prevention of accidents and unsafe conditions.

What is a Safety and Health Management System?

A Safety and Health Management System is a set of interrelated elements that establish and/or support occupational safety and health policy and objectives, and mechanisms to achieve those objectives in order to continually improve safety and health performance. So, again, a Safety and Health Management System is:

- A set of interrelated elements (see the lessons listed above) that support occupational safety and health policy and objectives
- Mechanisms to achieve those objective
- Continually improve safety and health performance

It is a systems approach to working safely.

Example

For example, in a systems approach, if a Safety Technician finds lines and leads running across an egress unsecured, not only would the situation be resolved, but there would also be a systematic process in place to discover and eliminate the underlying reason for the deficiency. The systematic approach seeks a long-term solution rather than a one-time fix.

Lesson 1: Introduction (Cont.)

Benefits of an Effective Safety and Health Management System

The benefits of an effective Safety and Health Management System include:

- Fewer injuries
 - Lowered workers' compensation costs
 - Reduced turnover of personnel
 - Reduced lost workdays
 - Compliance with standards and regulations
 - Increased productivity (due to fewer injury-related work absences)
 - Improved employee health status
 - Improved product quality
 - Higher morale of employees
 - Reduced business interruption costs
 - Reduced impact on the environment
-

Safety and Health Statistics

Some eye-opening statistics appear below:

- Nearly 24,000 workers are injured every 8 hour work day
 - Almost 17 of these workers die each day
 - OSHA's Voluntary Protection Program continues to pay big dividends. Today more than 500 workplaces, representing 180 industries, save \$110 million each year because their injury rates are 50 percent below the average for their industries.
 - **Only about 30 percent of businesses have established safety and health programs.** About half of the 95 million workers who would be covered under an OSHA safety and health program standard don't have that protection today. Establishing a safety and health program to prevent occupational injuries and illnesses is not only the right thing to do, it's the profitable thing to do. Studies have shown a \$4 to \$6 return for every dollar invested in safety and health
-

(From OSHA'S Safety and Health Management System eTool)

Lesson 1: Introduction (Cont.)

Shipyards Safety and Health Statistics

In an article written in *The Fabricator*, September 13, 2005, Vicki Bell writes; "With an accident and illness rate more than twice that of general construction and industry, shipyard work is among the most hazardous occupations."

The Bureau of Labor Statistics (BLS) Census of Fatal Occupational Injuries reported 155 shipyard fatalities from 1992-2002 or an average of 14 fatalities per year. This is about twice the rate for all private industry combined.

The Bureau also showed that in 2005, the injury and illness rate for the shipyard industry was 8.3 per 100 employees, compared to an injury and illness rate of 4.2 per 100 employees for all private industry.

Integrating Safety and Health into Work Practices

(Content from OSHA'S Safety and Health Management System eTool)

If your team wants to reduce:

- Accidents
- Injuries
- Illnesses
- Costs

Everyone must place as much emphasis on safety and health issues as they place on other core management issues, such as:

- Production
- Sales
- Quality control.

To be most effective, safety and health must be balanced with, and incorporated into, the other core business processes. "Safety First" may sound good, but in reality, safety should not be considered separately. Rather, it must become a basic value of your company. Change "Safety First" to "Safe production is our only standard." This emphasizes the idea that it's fine to produce as hard and as fast as possible, as long as it can be done safely.

Lesson 2: Responsibilities and Accountability

OSHA Responsibility

OSHA is responsible for spreading legally enforceable safety and health standards to protect workers on the job.

Management Responsibility

Employers (Managers) are responsible for becoming familiar with standards applicable to their work processes and ensuring employees are using safe work practices when completing job tasks. Employers can be fined for non-compliance of OSHA Standards.

Coverage

OSHA Standards cover the following:

- General industry
 - Construction
 - ***Shipyard employment***
 - Marine terminals
 - Long shoring
 - Agriculture
-

Implied Coverage

Where OSHA has not provided specific standards, employers are responsible for following the Act's general duty clause.

Each employer ***“shall furnish...a place of employment which is free from recognized hazards that are causing or are likely to cause death or serious physical harm to the employee.”***

“Every employer is required to become familiar with the standards that apply to their establishment.”

Lesson 2: Responsibilities and Accountability (Cont.)

Management Specific Responsibilities

Management has specific responsibilities that must comply with OSHA'S Standards.

Some of these will be covered in more detail in future lessons, but as an overview, they must:

- Keep a safe and healthy workplace
 - Provide a safe work environment including training, ample protection, safety equipment and hazard communication
 - Evaluate workplace hazards
 - Investigate and address safety and environmental hazards
 - Follow local, state and government laws regarding safety and the environment
 - Keep accurate records of workplace injuries and illnesses as well as near misses
 - Record medical treatment beyond first aid
 - Assign proper personnel to manage the SHMS, including document and control.
-

Fed OSHA Criminal Penalties

<u>Violation</u>	<u>Penalty</u>
Death caused by a misdemeanor	\$250,000 for the individual \$500,000 for the company
Knowingly providing a false written statement	\$10,000 and/or up to 6 months in prison
Knowing or negligent violation (misdemeanor) (applies to "every employer, every officer, management official, or supervisor").	\$ 5,000 and/or up to 6 months in prison

Cal OSHA Criminal Penalties

<u>Violation</u>	<u>Penalty</u>
Repeat violation or failure to timely rebate which "creates a real and apparent hazard"	\$ 15,000 and/or imprisonment up to 1 year \$150,000, if a corporation
Manslaughter Cal. Penal Code §192	\$10,000 and/or imprisonment up to 6 years

Lesson 2: Responsibilities and Accountability (Cont.)

Management Creates the Company Culture

The best way to avoid penalties and violations is to create a culture of safe work practices. A company's norms, beliefs and values make up its culture. What people do is based on what they think is important to their bosses.

- What do you talk about?
 - What do you measure?
 - What do you reward?
 - What do you reprimand?
-

The Elements of a "Culture of Safety"

To implement a culture of safe work practices the following must be in place:

- Management commitment
 - Employee involvement
-

Management Commitment

To demonstrate commitment management must:

- **Demonstrate** they are as committed to safe work practices as to any other initiative, including schedule, quality, and cost
 - **Model** safe behavior
 - Clearly **state** the goal and policy
 - **Involve** themselves by doing ship inspections or participating on the Safety Committee
 - **Encourage** employees to get involved!
 - **Communicate** responsibilities
 - **Talk** about safety!
-

Employee Involvement

Employee's are encouraged to:

- Identify work practices that could be safer
- Take responsibility for their own safety
- Attend training classes

In addition to the above:

- Employee suggestions are acted upon and the actions are communicated
 - Safety goal status is communicated
 - Safe behavior is recognized and/or rewarded
-

Lesson 2: Responsibilities and Accountability (Cont.)

Supervisor Responsibility

All Supervisor's must:

- Be *aware* of safety requirements
- *Ensure* that employees can perform their work safely
- *Maintain* safe working conditions
- *Communicate* safety policy and procedures to employees
- *Conduct* incident investigations
- *Report* near misses
- *Encourage* employees to participate in the improvement process
- *Consult* with employees to discover safer methods of repairing ships

Remember, penalties can apply to “every employer, every officer, management official or supervisor”.

Employee Responsibility

All Employee's must:

- Actively *care* for one another
 - *Seek* safer methods of building or repairing ships
 - *Comply* with their companies safety standards, rules and regulations
 - *Stop* a co-worker from working in an unsafe manner
-

Accountability

All workers, whether they are management, supervisors or employees must be held accountable for their actions. True accountability can not occur unless the following elements are in place:

- Clear rules, standards and expectations are in place
 - People know what they are responsible for
 - Results are measured
 - The authority to act is commensurate with their responsibility
-

Lesson 2: Responsibilities and Accountability (Cont.)

Exercise

In your organization, identify “who” by name or job title, is *most* responsible for “what” (listed in the left column).

What	Who
Establishing your safety policy, goals and objectives	
Maintaining your Safety Manual	
Training safety	
Communicating changes to policy or practices	
Documentation (training, accidents, investigation results, corrective actions)	
Hazard identification	
Performance monitoring and control	
Implementing safety improvements	
Responding to emergencies	

Comments:

Quiz 1 True or False

1. T ___ F ___
If OSHA does not have a specific standard relating to an accident, a company can not be held responsible for the accident.
 2. T ___ F ___
Line-level supervisors can not be fined or imprisoned for violating an OSHA regulation.
 3. T ___ F ___
A company culture consists of their written policies and procedures.
 4. T ___ F ___
A safe culture is based mostly on discipline.
-

Lesson 2: Responsibilities and Accountability (Cont.)

Quiz 2 Matching

For each safety “responsibility” listed in the left column, identify who it best applies to in the right column. For Management use “M”, for Supervisor use “S” and for Employee use “E”.

Responsibility	Who
· Create and drive the company culture	
· Stop a co-worker from working on the deck plate in an unsafe manner	
· Document and report near misses	

Lesson 3: Safe Work Practice and Training Documentation

Types of Documentation

If a Safety and Health Management System is going to be effective it is imperative that important information is documented. Documentation should provide information regarding two key elements of the SHMS:

- Required documentation conveying to your workforce what safe work practices should be followed and how you should follow them
 - Tracking systems providing objective evidence that the safe work practices were followed correctly
-

The What and How: SB 198 Injury and Illness Prevention Program

In California, most employers are required by law (SB 198, Injury and Illness Prevention Program) to document their safety program through a written program that includes:

- A written process for identifying and evaluating work place hazards
- A system for communicating with employee's safety and health issues
- Safety and Health Training Programs
- Regularly scheduled safety meetings
- Ongoing documentation and recordkeeping of the steps taken to implement and maintain the Injury and Illness Prevention Program
- A system for ensuring employee compliance with safe and healthy work practices
- Identification of the people responsible for administering the program

This documentation typically makes up a Safety Procedure Manual which we will discuss in the next lesson.

Lesson 3: Safe Work Practice and Training Documentation (Cont.)

Typical Shipyard Documentation

Because working in a shipyard can be very hazardous, there are many documentation requirements. The list below identifies documentation you will find in a ship repair facility. This list is not necessarily complete.

- Injuries and illnesses
- Incidents and accidents
- Investigations
- Sampling of heavy metals (sometimes the responsibility of an environmental department)
- MSDS
- Preventative and corrective accident reports
- Audit results
- Inspections
- Training (gang-box, forklift, harness, etc)
- Employee examination results (eye, ear, etc)
- Safety violations
- Equipment inspections
- Equipment calibration logs
- Employee/Subcontractor warnings
- Safety Committee notes/actions
- Confined space permits

Tracking Systems

Tracking systems provide objective evidence that the instructions in your Safety Procedure Manual are being followed. The information tracked should include:

- Deaths and injuries
 - Inspection and audit results
 - Corrective actions
 - Training completed
-

Lesson 3: Safe Work Practice and Training Documentation (Cont.)

Training Tracking

The following documentation is needed when conducting safety training:

- Who attended (name)
- Number of hours of training
- Type of training
- Date of the training
- The OSHA standard referred to in the training
- Verification that a person attended, such as a signature

The matrix below provides an example of a departmental training tracking system.

WFS, Inc.

Dept. #77 – Sheetmetal

Start Date: 1/1/09 End Date: 12/31/09

NAME	RESP DATE	RES STATUS	RES REP STATUS	ANN FIT DATE	ANN FIT STATUS	FIT REP STA	AUDIO DATE	AUDIO STATUS	LOCK/TAG	TAGOUT MANU	FW TRAINING
Joe Smith	07/24/07	COMPLETE	PASS	07/24/07	COMPLETE	PASS	07/06/07	COMPLETE	07/24/07		04/23/08
Juanita Smith	02/05/07	COMPLETE	PASS	02/05/07	COMPLETE	PASS	02/05/07	COMPLETE	09/29/99	9/26/01	02/27/04
Isabell Smith	10/06/08	COMPLETE	PASS	01/24/06	4 hr use only	PASS	10/06/08	COMPLETE	09/29/99	7/12/01	02/27/04
Josh Smith	03/14/08	COMPLETE	PASS	03/20/08	COMPLETE	PASS	03/14/08	COMPLETE			
Mary Smith	03/05/08	COMPLETE	PASS	04/09/08	COMPLETE	PASS	03/05/08	COMPLETE	04/09/08		
Thai Smith	04/21/08	COMPLETE	PASS	04/23/08	COMPLETE	PASS	04/21/08	COMPLETE	04/23/08		04/23/08
Tim Smith	03/13/08	COMPLETE	PASS	03/19/08	COMPLETE	PASS	03/13/08	COMPLETE	03/19/08		03/19/08
Bob Smith	05/22/07	COMPLETE	PASS	08/26/08	COMPLETE	PASS	08/26/08	COMPLETE	05/22/07		05/22/07
Chi Smith	07/17/07	COMPLETE	PASS	07/17/07	COMPLETE	PASS	07/09/07	COMPLETE	07/17/07		07/17/07
Grace Smith	05/16/08	COMPLETE	PASS	05/21/08	COMPLETE	PASS	05/16/08	COMPLETE	05/21/08		05/21/08
Antonia Smith	04/23/08	COMPLETE	PASS	04/29/08	COMPLETE	PASS	04/23/08	COMPLETE	04/29/08		04/29/08
Bill Smith	11/20/07	COMPLETE	PASS	NA			11/16/07	COMPLETE	11/20/07		NA
Gordy Smith	09/18/07	COMPLETE	PASS	09/18/07	COMPLETE	PASS	09/13/07	COMPLETE	09/18/07		09/18/07
Sue Smith	06/27/08	COMPLETE	PASS	07/15/08	COMPLETE	PASS	06/27/08	COMPLETE	04/23/08		04/23/08
Barb Smith	05/25/07	COMPLETE	PASS	06/026/07	COMPLETE	PASS	05/25/07	COMPLETE	06/26/07		06/26/07
Romina Smith	03/28/08	COMPLETE	PASS	03/31/08	COMPLETE	PASS	03/28/08	COMPLETE	03/31/08		
Rose Smith	07/17/07	COMPLETE	PASS	07/17/07	COMPLETE	PASS	06/0607	COMPLETE	07/17/07		07/01/08
Len Smith	06/05/07	COMPLETE	PASS	06/05/07	COMPLETE	PASS	05/30/07	COMPLETE	06/05/07		06/05/07
Justine Smith	03/05/08	COMPLETE	PASS	03/18/08	COMPLETE	PASS	03/05/08	COMPLETE	03/18/08		07/01/08
Toby Smith	03/28/08	COMPLETE	PASS	03/31/08	COMPLETE	PASS	03/28/08	COMPLETE	03/31/08		
Marty Smith	04/18/08	COMPLETE	PASS	04/23/08	COMPLETE	PASS	04/18/08	COMPLETE	04/23/08		04/23/08
Dave Smith	07/03/08	COMPLETE	PASS	07/08/08	COMPLETE	PASS	07/03/08	COMPLETE	07/08/08		07/08/08
Juan Smith	09/15/03	COMPLETE	PASS	n/a	COMPLETE	PASS	N/A	COMPLETE	10/31/01	A-1/23/2004	07/01/08
Jose Smith		N/A			N/A		N/A	COMPLETE		A-1/23/2004	
MikeSmith	03/14/08	COMPLETE	PASS	03/20/08	COMPLETE	PASS	03/14/08	COMPLETE	03/20/08		
CochellaSmith	03/26/08	COMPLETE	PASS	04/05/08	COMPLETE	PASS	03/26/08	COMPLETE			05/23/08
Suzi Smith	09/14/02	COMPLETE	PASS	01/06/07	COMPLETE	PASS	01/06/06	COMPLETE	09/14/02	9/14/02	04/23/08

Lesson 3: Safe Work Practice and Training Documentation (Cont.)

Document and Data Control

Your Safety Procedure Manual should ensure that all safety documentation is properly reviewed and approved by an authorized person as mentioned in Lesson 2, Responsibilities and Accountability. In addition, your document control procedure should ensure that:

- Documents can be located
 - Documents are periodically reviewed, revised as necessary, and approved by authorized personnel
 - Current versions of the relevant documents are available at all locations where production is being performed
 - Obsolete documents retained for legal and/or knowledge preservation purposes are suitably identified
-

Quiz Word Bank

Word Bank: From the Word Bank below, circle the 6 training documentation requirements.

Word Bank

Department	Participant Education Level	Type of training	Length of time with company
Participant ethnicity	Number of hours of training	Verification that a person attended, such as a signature	Participant job title(s)
Date of the training	The OSHA standard referred to in the training	Class Level Beg./Inter./Adv	Who attended (name)

Lesson 4: Safety Procedure Manual

The What and How

As we discussed in Lesson 3, your Safety Procedure Manual should provide the required documentation conveying to your workforce what safe work practices should be followed and how you should follow them.

Other Important Elements of a Safety Manual

In addition to meeting OSHA requirements listed earlier, other elements often found in an effective safety manual include:

- The company's Safety Mission Statement
 - Safety Committees make-up and procedure
 - Safety Inspections
 - Safety Observation of Work Practices
 - Accident Investigations
 - Orientation
 - Emergency Response
 - Code of Safe Work Practices
 - Safety and Health Forms
-

Accurate and Specific

Safety manuals should be accurate and specific. They should:

- Comply with state and federal OSHA requirements
 - Be industry specific
 - Be aligned with company rules and culture
-

Writing a Safety Manual

Creating a safety manual is a big job. The responsibility could be assigned to one person or to a group of people. The latter approach is preferable.

In developing and maintaining the safety manual the following questions should be answered:

- Who will develop the manual?
 - What should the content be?
 - Who will review for content and accuracy?
-

Lesson 4: Safety Procedure Manual (Cont.)

Changes Require Updates

It is important that safety manuals be updated. Many changes occur in the workplace, such as:

- OSHA Regulations
 - Work practices
 - Employees
 - Materials
 - Facility modifications
-

Updating the Safety Manual

As safety manuals are living, changing documents, consideration needs to be given on how future updates of existing sections or distributions of new sections will be handled. Questions will have to be answered, such as:

- Who will be responsible for changes?
- Will each manual section have a place for listing the original date of publication and subsequent updates of certain pages or the whole section?
- When will updates be required – when regulations change, when audits and inspections reveal existing policies are not being followed, after accident investigations, etc.?
- How will changes be communicated and distributed?

Many companies review all sections of their safety manuals at least annually.

Safety Manual Accessibility

A copy of the safety manual should be accessible to all employees. Because the manual can be large and cumbersome, it may be practical to break it up into smaller sections that apply to each particular department.

Example: The section on Emergency Response will likely apply to everyone and therefore should be accessible to all. The section on Required Documentation will likely apply to a few and therefore may be “data glut” to most.

Lesson 4: Safety Procedure Manual (Cont.)

Quiz
True or False

1. T ___ F ___
Your Safety Procedure Manual should provide the required documentation conveying to your workforce what safe work practices should be followed and how you should follow them.
 2. T ___ F ___
Your Safety Procedure Manual must be written by a certified OSHA professional.
 3. T ___ F ___
The entire Safety Procedure Manual must be accessible (within 50 feet) to all employees.
-

Lesson 5: Workforce Safety Training

Definitions and Importance

Competence is a standardized requirement for an individual to properly perform a specific job. It encompasses a combination of knowledge, skills and behavior utilized to improve performance.

Training refers to the acquisition of knowledge, skills, and competencies as a result of the teaching of vocational or practical skills and knowledge that relate to specific useful competencies.

So, to help ensure that employees are competent (able to perform their job safely), it is important to provide training!

Who Needs Training? (From OSHA'S Safety and Health Management System eTool)

Training should target new hires, contract workers, employees who wear personal protective equipment, and workers in high risk areas.

Managers and supervisors should also be included in the training plan.

Training for managers and supervisors should emphasize the importance of their role in visibly supporting the safety and health program and setting a good example.

Supervisors should receive training in company policies and procedures, as well as hazard detection and control, accident investigation, handling of emergencies, and how to train and reinforce training.

The long-term worker whose job changes as a result of new processes or materials should not be overlooked. And the entire workforce needs periodic refresher training in certain programs such respiratory, hearing, and others!

Everyone needs training!

Lesson 5: Workforce Safety Training (Cont.)

What Should be Trained? Five Key Questions

Determining your training topics can be confusing and your list may be long, but a good place to start is by asking five key questions:

Do all employees know:

- The workplace plan in case of a fire or other emergency?
 - When and where PPE is required (and what type!)?
 - The types of chemicals used in the shop and on the ship?
 - The precautions used when handling them?
 - The hazards associated with their tasks on and off the ship (and how to eliminate or reduce them)?
-

Additional Types of Safety and Health Training Needed

Other important training topics include the following:

- Orientation training for employees and contractors
 - Training required by OSHA Standards
 - Training for emergency response people
 - Accident investigation training
 - Operating procedures that an employee must follow to prevent or minimize exposure to hazards in their jobs
 - The potential consequences of departure from specified operating procedures
 - Employee's role and responsibility in complying with their company's safety and health program
 - Employee's participation in safety
-

Lesson 5: Workforce Safety Training (Cont.)

Training Topics Relating to Shipyard

The training topics listed below are often implemented in shipyards or shipyard support companies:

- Confined space entry
 - Lifting and handling material
 - Working above deck
 - Working over water
 - Eye protection
 - Fire prevention
 - Housekeeping
 - Hatchways
-

How to Conduct Training? (From OSHA'S Safety and Health Management System eTool)

OSHA considers safety and health training vital to every workplace.

It is most effective when integrated into a company's overall training in performance requirements and job practices.

The content of a company's training program and the methods of presentation should reflect the needs and characteristics of the particular workforce. Therefore, identification of needs is an important early step in training design. Involving everyone in this process and in the subsequent teaching can be highly effective.

Training Evaluation and Tracking (From OSHA'S Safety and Health Management System eTool)

Plan to evaluate the training program when initially designing the training.

If the evaluation is done right, it can identify your program's strengths and weaknesses, and provide a basis for future program changes.

Keeping training records will help ensure that everyone who should receive training, does. A simple form can document the training record for each employee.

OSHA has developed voluntary training guidelines to assist in the design and implementation of effective training programs.

Lesson 5: Workforce Safety Training (Cont.)

Quiz Fill in the Blank

Fill in the Blank: For each sentence below, write *the best* word or words from the work bank that correctly completes the sentence. Note, not all words in the Word Bank will be used and none will be used more than once.

Word Bank

Competence	Subcontractors	Orientation Training	Forklift Training
Training	Supervisors	Long Term Employees	Replacing
Confined Space	Ability	Safety Technicians	Integrated Into

1. [_____ is a standardized requirement for an individual to properly perform a specific job.]
 2. [_____ refers to the acquisition of knowledge, skills, and competencies as a result of the teaching of vocational or practical skills and knowledge that relate to specific useful competencies.]
 3. [Training for _____ should emphasize the importance of their role in visibly supporting the safety and health program and setting a good example.]
 4. [_____ is a training topic not often found in many industries but often found in a shipyard.]
 5. [Training is most effective when _____ a company's overall training in performance requirements and job practices.]
 6. [_____ should be provided to both employees and contractors.]
-

Lesson 6: Hazard Communication

Communication is Vital! To establish a culture of workplace safety, as well as to comply with the CAL OSHA's required IIP Program, it is imperative that communication is not left to chance. Giving and receiving feedback with employees and contractors is vital. Therefore, organizations should implement and maintain a procedure for:

- Internal communication among various levels and functions of the organization
 - Communication with contractors and other visitors to the workplace
 - Receiving documentation and responding to relevant communications from external interested parties.
-

OSHA's Hazard Communication Standard About 32 million workers work with and are potentially exposed to one or more chemical hazards. Also, there are approximately 650,000 existing chemical products and hundreds of new ones being introduced annually. Therefore, OSHA has implemented a Hazard Communication Standard (HCS).

The purpose of OSHA's Hazard Communication Standard is to ensure that employers and employees know about work hazards and how to protect themselves so that the incidence of illness and injuries due to hazardous chemicals is reduced.

Related Facts Aside from the OSHA requirement, it is important to note that chemical exposure may cause or contribute to many serious health effects such as:

- Heart ailments
- Central nervous system damage
- Kidney and lung damage
- Sterility
- Cancer
- Burns
- Rashes

Some chemicals may also be safety hazards and have the potential to cause fires and explosions and other serious accidents. Therefore, it is in everyone's best interest to communicate with your employees effectively regarding these hazards.

Lesson 6: Hazard Communication (Cont.)

Employer Responsibilities

Each employer is responsible to

- Identify and list hazardous chemicals in their workplaces
- Obtain MSDS's and labels for each hazardous chemical, if not provided by the manufacturer, importer or distributor
- Implement a written HAZCOM program, including labels, MSDS's, and employee training
- Communicate hazard information to employees through labels, MSDS's and formal training programs.

Exercise

In the left column (Job Titles) list job titles found in your organization. In the middle column (What) list types of safety information you would like to give and receive regarding that Job Title. In the right column (How) identify the method you would use to share that information.

Job Titles	What	How

Lesson 6: Hazard Communication (Cont.)

Quiz

Multiple Choice

Multiple Choice: For each of the following questions, circle the letter that best answers the question.

1. To establish a culture of workplace safety as well as to comply with OSHA IIP Program, it is imperative the communication is not left to chance. Giving and receiving feedback with employees and contractors is vital. Therefore, organizations should implement and maintain a procedure for:
 - A. [Praise and Discipline]
 - B. [Receiving, documentation and responding to relevant communications from external interested parties]
 - C. [Instructions for the Safety Suggestion Box]
 - D. [Good Listening Skills]

 2. Regarding Hazardous Communication, each employer is *not* responsible for:
 - A. [Providing a list of all company hazards to each employee in written form]
 - B. [Identify and list hazardous chemicals in their workplaces.]
 - C. [Obtain MSDS's and labels for each hazardous chemical, if not provided by the manufacturer, importer, or distributor]
 - D. [Implement a written HAZCOM program, including labels, MSDS's and employee training.]
 - E. [Communicate hazardous information to employees through labels, MSDS's and formal training programs]
-

Lesson 7: Hazard Identification, Assessment and Control

Hazard Identification, Assessment, and Control Procedure

Effective Safety and Health Management Systems have a procedure that is used to identify, assess and control safety and health hazards. The results of hazard analyses are considered in determining facilities requirements, training needs and/or development of operational controls. In addition, analyses are considered when setting safety and health goals and objectives.

Types of Hazards Found in the Shipyard

The following are types of workplace hazards you will find in the shipyard and likely in your shop.

<i>Physical Hazard</i>	<i>Related Shipyard Process Example</i>
Pinch hazard	Equipment gears rotating
Trips and falls	Lines crossing/walk-ways
Vibration and noise	Turbines rotating
Electrical hazards	Working on electrical boxes
Extreme temperatures	Steam plant lighting off
Radiation exposure	Radiation leak on nuclear vessel
Confined Space	Oxygen deficiency
Fires	Oily material ignited while welding
Explosions	Brazing material
Cuts and abrasions	Using machinery or tools
Death	All of the above

Lesson 7: Hazard Identification, Assessment and Control (Cont.)

Three Important Hazard Identification Processes

You can't fix something you don't see. We want to "see" the problem before we "feel" the problem. Listed below are three important hazard identification processes.

- Walkaround Inspections
 - Comprehensive Survey
 - Observations
-

Walkaround Inspections

Conducting formal and informal safety inspections on a periodic basis (daily, weekly, or monthly) is important in making sure the workplace remains free of hazards that could cause injury or illness. To effectively conduct inspections the following actions will be helpful:

- Conduct regular inspections; establish a procedure
 - Develop and use a checklist
 - Provide a reliable system for employees, without fear of reprisal, to notify management about apparent hazardous conditions and to receive timely and appropriate responses
-

Comprehensive Survey

Conduct an employee survey to allow all employees to participate in providing input regarding safety challenges. To help you with developing the survey and implementation process the following resources are available:

- OSHA Consultation Program (free and confidential)
 - Insurance companies
 - Consultants
-

Observations

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

Informal observations can detect and correct!

- One employee warns another employee about an unsafe condition
 - All employees see and report unsafe conditions
 - Managers and supervisors reward the above
 - When managers and supervisors observe unsafe behaviors they intervene with appropriate consequences
-

Lesson 7: Hazard Identification, Assessment and Control (Cont.)

Hazard Assessment

A Hazard Assessment is a written, formal appraisal of the safety risks that exist within a workplace. A Hazard Assessment is often performed by the safety team during a walk-through. Two additional methods to assess hazards are a Job Safety Analysis and an Accident Investigation and Corrective Action, the latter we will be discussing in Lesson 9.

Job Safety Analysis

A Job Safety Analysis is an organized approach that involves the worker and supervisor or safety technician taking the following steps:

- Observing the task
 - Breaking the task down into activities or steps
 - Analyzing each step for safety or operational needs
 - Recommending procedures to meet those needs
-

HAZARD ASSESSMENT FORM

Area (Shop/Ship/Confined Space/Etc):

Assessor:

Date:

Eye

Work Activities	Work Related Exposure	PPE if Hazard Cannot be Eliminated	
<input type="checkbox"/> Abrasive blasting	<input type="checkbox"/> Airborne dust	<input type="checkbox"/> Safety glasses	<input type="checkbox"/> <i>With side shields</i>
<input type="checkbox"/> Chopping	<input type="checkbox"/> Dirt	<input type="checkbox"/> Safety goggles	<input type="checkbox"/> <i>With face shield</i>
<input type="checkbox"/> Cutting	<input type="checkbox"/> UV	<input type="checkbox"/> Dust-tight goggles	<input type="checkbox"/> <i>With Shade</i>
<input type="checkbox"/> Drilling	<input type="checkbox"/> Flying particles/objects	<input type="checkbox"/> Impact goggles	<input type="checkbox"/> <i>Prescription</i>
<input type="checkbox"/> Welding	<input type="checkbox"/> Blood splashes	<input type="checkbox"/> Welding helmet/shield	<input type="checkbox"/>
<input type="checkbox"/> Soldering	<input type="checkbox"/> Liquid chemical mists	<input type="checkbox"/> Chemical goggles	<input type="checkbox"/>
<input type="checkbox"/> Torch brazing	<input type="checkbox"/> Chemical splashes	<input type="checkbox"/> Chemical splash goggles	<input type="checkbox"/>
<input type="checkbox"/> Punch press	<input type="checkbox"/> Molten metal splashes	<input type="checkbox"/> Laser goggles	<input type="checkbox"/>
<input type="checkbox"/> Sanding	<input type="checkbox"/> Glare/high intensity light	<input type="checkbox"/> Shading/Filter (# _____)	<input type="checkbox"/>
<input type="checkbox"/> Sawing	<input type="checkbox"/> Laser operations	<input type="checkbox"/> Welding shield	<input type="checkbox"/>
<input type="checkbox"/> Grinding	<input type="checkbox"/> Intense light	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Hammering	<input type="checkbox"/> Hot Sparks	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Chipping	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other:	Other:	<input type="checkbox"/> Hazard can be eliminated without PPE	

Face

Work Activities	Work Related Exposure	PPE if Hazard Cannot be Eliminated	
<input type="checkbox"/> Cleaning	<input type="checkbox"/> Hazardous liquid chemicals	<input type="checkbox"/> Face shield	
<input type="checkbox"/> Siphoning	<input type="checkbox"/> Extreme heat	<input type="checkbox"/> Shading/Filter (# _____)	
<input type="checkbox"/> Painting	<input type="checkbox"/> Extreme cold	<input type="checkbox"/> Welding Shield	
<input type="checkbox"/> Dip tank ops.	<input type="checkbox"/> Potential irritants	<input type="checkbox"/>	
<input type="checkbox"/> Pouring	<input type="checkbox"/> Burns	<input type="checkbox"/>	
<input type="checkbox"/> Foundry work	<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/> Welding	<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/> Mixing	<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/> Pouring metal	<input type="checkbox"/>	<input type="checkbox"/>	
Other:	Other:	<input type="checkbox"/> Hazard can be eliminated without PPE	

HAZARD ASSESSMENT FORM CONTINUED

Head

Work Activities	Work Related Exposure	PPE if Hazard Cannot be Eliminated
<input type="checkbox"/> Building Maint.	<input type="checkbox"/> Beams	<input type="checkbox"/> Hard hat type A (low voltage)
<input type="checkbox"/> Confined space	<input type="checkbox"/> Pipes	<input type="checkbox"/> Hard hat type B (high voltage)
<input type="checkbox"/> Construction	<input type="checkbox"/> Exposed electrical wiring or components	<input type="checkbox"/> Hard hat type C
<input type="checkbox"/> Electrical wiring	<input type="checkbox"/> Falling objects	<input type="checkbox"/> Hair net/soft cap
<input type="checkbox"/> Walking/working under catwalk	<input type="checkbox"/> Fixed objects	<input type="checkbox"/>
<input type="checkbox"/> Walking/working on catwalk	<input type="checkbox"/> Machine parts	<input type="checkbox"/>
<input type="checkbox"/> Walking/working under conveyor belts	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Walking/working under crane loads	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Utility work	<input type="checkbox"/>	<input type="checkbox"/>
Other:	Other:	<input type="checkbox"/> Hazard can be eliminated without PPE

Hands/Arms

Work Activities	Work Related Exposure	PPE if Hazard Cannot be Eliminated
<input type="checkbox"/> Grinding	<input type="checkbox"/> Blood	<input type="checkbox"/> Chemical
<input type="checkbox"/> Welding	<input type="checkbox"/> Chemicals	<input type="checkbox"/> Liquid/leak resistance gloves
<input type="checkbox"/> Working with Glass	<input type="checkbox"/> Tools/materials that could scrape, bruise, or cut	<input type="checkbox"/> Temperature resistance gloves
<input type="checkbox"/> Rigging	<input type="checkbox"/> Extreme heat	<input type="checkbox"/> Abrasion/cut resistance gloves
<input type="checkbox"/> Using knives	<input type="checkbox"/> Extreme cold	<input type="checkbox"/> Slip resistance gloves
<input type="checkbox"/> Garbage disposal	<input type="checkbox"/> Electric shock	<input type="checkbox"/> Latex or nitrile gloves
<input type="checkbox"/> Clean-up	<input type="checkbox"/> Vibration	<input type="checkbox"/> Anti-vibration gloves
<input type="checkbox"/> Material Handling	<input type="checkbox"/> Musculoskeletal disorders	<input type="checkbox"/> Protective sleeves gloves
<input type="checkbox"/> Sanding	<input type="checkbox"/> Burns	<input type="checkbox"/> Ergonomic equipment gloves
<input type="checkbox"/> Sawing	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Hammering	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Using power tools	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Using ropes and chains	<input type="checkbox"/>	<input type="checkbox"/>
Other:	Other:	<input type="checkbox"/> Hazard can be eliminated without PPE

HAZARD ASSESSMENT FORM CONTINUED

Feet/Legs

Work Activities	Work Related Exposure	PPE if Hazard Cannot be Eliminated
<input type="checkbox"/> Building Maintenance	<input type="checkbox"/> Explosive atmosphere	<input type="checkbox"/> Safety shoes/boots toe protection
<input type="checkbox"/> Construction	<input type="checkbox"/> Electrical wiring or components	<input type="checkbox"/> Safety shoes/boots electrical protection
<input type="checkbox"/> Demolition	<input type="checkbox"/> Heavy equipment	<input type="checkbox"/> Safety shoes/boots puncture resistance
<input type="checkbox"/> Foundry work	<input type="checkbox"/> Slippery surfaces	<input type="checkbox"/> Safety shoes/boots anti slip soles
<input type="checkbox"/> Working outdoors	<input type="checkbox"/> Impact from objects	<input type="checkbox"/> Safety shoes/boots metatarsal protection
<input type="checkbox"/> Plumbing/Pipefitting	<input type="checkbox"/> Pinch points	<input type="checkbox"/> Safety shoes/boots Heat/cold protection
<input type="checkbox"/> Machining	<input type="checkbox"/> Crushing	<input type="checkbox"/> Safety shoes/boots Chemical resistance
<input type="checkbox"/> Trenching	<input type="checkbox"/> Slippery/wet surfaces	<input type="checkbox"/> Leggings or chaps
<input type="checkbox"/> Rigging	<input type="checkbox"/> Sharps injury	<input type="checkbox"/> Foot-leg guards
<input type="checkbox"/> Electrical	<input type="checkbox"/> Blood	<input type="checkbox"/>
<input type="checkbox"/> Use of flammables	<input type="checkbox"/> Chemical splash	<input type="checkbox"/>
<input type="checkbox"/> Welding/brazing	<input type="checkbox"/> Extreme heat/cold	<input type="checkbox"/>
<input type="checkbox"/> Grinding	<input type="checkbox"/> Fall	<input type="checkbox"/>
Other:	Other:	<input type="checkbox"/> Hazard can be eliminated without PPE

Body/Skin

Work Activities	Work Related Exposure	PPE if Hazard Cannot be Eliminated
<input type="checkbox"/> Cleaning operations	<input type="checkbox"/> Explosive atmosphere	<input type="checkbox"/> Vest/jacket (long sleeves?) Y or N
<input type="checkbox"/> Fiberglass installation/repair	<input type="checkbox"/> Electrical wiring or components	<input type="checkbox"/> Coveralls, body suit
<input type="checkbox"/> Lagging	<input type="checkbox"/> Heavy equipment	<input type="checkbox"/> Raingear
<input type="checkbox"/> Sawing	<input type="checkbox"/> Slippery surfaces	<input type="checkbox"/> Apron
<input type="checkbox"/> Welding/brazing	<input type="checkbox"/> Impact from objects	<input type="checkbox"/> Welding leathers
<input type="checkbox"/> Rigging	<input type="checkbox"/> Pinch points	<input type="checkbox"/> Abrasion/cut resistance
<input type="checkbox"/> Electrical	<input type="checkbox"/> Crushing	<input type="checkbox"/>
<input type="checkbox"/> Use of flammables	<input type="checkbox"/> Slippery/wet surfaces	<input type="checkbox"/>
<input type="checkbox"/> Welding/brazing	<input type="checkbox"/> Sharps injury	<input type="checkbox"/>
<input type="checkbox"/> Grinding	<input type="checkbox"/> Blood	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/> Chemical splash	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/> Extreme heat/cold	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/> Fall	<input type="checkbox"/>
Other:	Other:	<input type="checkbox"/> Hazard can be eliminated without PPE

HAZARD ASSESSMENT FORM CONTINUED

Body/Whole

Work Activities	Work Related Exposure	PPE if Hazard Cannot be Eliminated
<input type="checkbox"/> Building maintenance	<input type="checkbox"/> Working from heights of five feet or more	<input type="checkbox"/> Fall arrest/restraint
<input type="checkbox"/> Construction	<input type="checkbox"/> Impact from flying objects	<input type="checkbox"/> Traffic vest Full sleeves? Y or N
<input type="checkbox"/> Rigging	<input type="checkbox"/> Impact from moving vehicles	<input type="checkbox"/> Static coats/overalls
<input type="checkbox"/> Driving equipment	<input type="checkbox"/> Blood	<input type="checkbox"/> Flame resistant jacket/pants
<input type="checkbox"/> Sawing	<input type="checkbox"/> Electrical/static discharge	<input type="checkbox"/> Insulated jacket
<input type="checkbox"/> Grinding	<input type="checkbox"/> Hot metal	<input type="checkbox"/> Cut resistant sleeves/wristlets
<input type="checkbox"/> Welding	<input type="checkbox"/> Musculoskeletal disorders	<input type="checkbox"/> Hoist/lifts
<input type="checkbox"/>	<input type="checkbox"/> Sparks	<input type="checkbox"/> Ergonomic equipment _____
<input type="checkbox"/>	<input type="checkbox"/> Chemicals	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/> Extreme heat/cold	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/> Elevated walking or working surface	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/> Working near water	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/> Injury from slip/trip/fall	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other:	Other:	<input type="checkbox"/> Hazard can be eliminated without PPE

HAZARD ASSESSMENT FORM CONTINUED

Lungs/Respiratory

Work Activities	Work Related Exposure	PPE	Shield/Hood/Crtgd
<input type="checkbox"/> Cleaning	<input type="checkbox"/> Dust or particulate	<input type="checkbox"/> Dust mask	<input type="checkbox"/> Face shield
<input type="checkbox"/> Mixing	<input type="checkbox"/> Toxic gas/vapor	<input type="checkbox"/> Disposable particulate respirator	<input type="checkbox"/> Acid/gas crtgd
<input type="checkbox"/> Painting	<input type="checkbox"/> Chemical irritants (acids)	<input type="checkbox"/> Replaceable filter particulate w/cartridge	<input type="checkbox"/> Organic crtgd
<input type="checkbox"/> Fiberglass installation	<input type="checkbox"/> Welding fume	<input type="checkbox"/> PAPR (Air recycle)	<input type="checkbox"/> Spray paint crtgd
<input type="checkbox"/> Lagging	<input type="checkbox"/> Asbestos	<input type="checkbox"/> PPSA (Air supply)	<input type="checkbox"/> Half faced
<input type="checkbox"/> Compressed air or gas operations	<input type="checkbox"/> Pesticides	<input type="checkbox"/>	<input type="checkbox"/> Full faced
<input type="checkbox"/> Confined space work	<input type="checkbox"/> Organic vapors	<input type="checkbox"/>	<input type="checkbox"/> Hooded
<input type="checkbox"/> Floor installation	<input type="checkbox"/> Oxygen deficient environment	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Ceiling repair	<input type="checkbox"/> Paint spray	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Pouring	<input type="checkbox"/> Extreme heat/cold	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Sawing		<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Grinding/cutting	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Welding	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other:	Other:	<input type="checkbox"/> Hazard can be eliminated without PPE	<input type="checkbox"/>

Ears/Hearing

Work Activities	Work Related Exposure	PPE if Hazard Cannot be Eliminated
<input type="checkbox"/> Generator	<input type="checkbox"/> Loud noises	<input type="checkbox"/> Ear plugs
<input type="checkbox"/> Ventilation fans	<input type="checkbox"/> Loud work environment	<input type="checkbox"/> Ear muffs
<input type="checkbox"/> Motors	<input type="checkbox"/> Noisy machines/tools	<input type="checkbox"/> Leather welding hood
<input type="checkbox"/> Sanding	<input type="checkbox"/> Punch or brake presses	<input type="checkbox"/>
<input type="checkbox"/> Pneumatic equipment	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Punch or brake presses	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Use of conveyors	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Grinding	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Machining	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Routers	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Sawing		<input type="checkbox"/>
Other:	Other:	<input type="checkbox"/> Hazard can be eliminated without PPE

Lesson 7: Hazard Identification, Assessment and Control (Cont.)

Job Safety Analysis Sample Worksheet

**Job Description: Loading an empty trailer with pallets of material
(For training purposes-not all inclusive)**

Job Steps	Hazards Present	Safe Job Procedure
1. Ensure that the trailer is correctly spotted.	1. Worker could be caught between the trailer and dock. Worker could fall from the dock.	1a. Stay clear of the doorway while the trailer is being backed onto the dock. 1b. Keep others away from area 1c. 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.	2a. If the truck driver has not chocked the wheels, go down tile ramp/stairs to the dock well and chock the wheels. 2 b. Use caution when walking on snow or ice. 3a. Hold onto hand rails. 3b. Use ice melting chemical, if needed. 3e. When placing the chock, avoid bumping head on the underside of the trailer. 3f. Place jacks under the nose of the trailer. 3g. Activate automatic trailer restraint if applicable.

Note

The job safety analysis can, and often does, become a safety checklist!

Lesson 7: Hazard Identification, Assessment and Control (Cont.)

Hazard Controls

There are four methods you can use to “control” or limit the effects of a hazard:

- Interim Measures
 - Engineering Controls
 - Administrative Controls
 - Personal Protective Equipment (PPE)
-

Engineering Controls

Controlling a hazard at its source is the best way to protect employees. These controls are called Engineering Controls and focus on the source of the hazard rather than on the employees exposed to the hazard. Depending on the hazard or workplace conditions, OSHA recommends the use of engineering or work practice controls to manage or eliminate hazards to the greatest extent possible.

Type of Engineering Control: Building a barrier between the hazard and the employees is an engineering control.

Example: If a compressor is causing significant vibration, building walls around the compressor is an engineering control.

Re-Design

If feasible, design the facility, equipment or process to remove the hazard and/or substitute something that is not hazardous or is less hazardous, such as:

- Redesign, change, or substitute equipment to remove the source of excessive temperatures, noise, or pressure
 - Redesign a work station to relieve physical stress and remove ergonomic hazards
 - Provide ventilation to improve indoor air quality
-

Lesson 7: Hazard Identification, Assessment and Control (Cont.)

Enclose the Hazard

If removal or redesigning is not feasible, enclose (as with the example above) the hazard to prevent exposure during normal operations. Completely enclose or contain:

- Moving parts of machinery
 - Toxic liquids or gases
 - Noise, heat, or pressure-producing processes
-

Barriers or Local Ventilation

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 shops
 - Machine guarding
 - Isolation of the process in an area away from production workers
 - Baffles used to absorb noises
-

Administrative Controls

Administrative controls are work practices, work methods, policies and procedures established by the employer with the goal of reducing exposure to a work-related risk and/or hazard. Administrative controls include:

- Rotating workers in jobs that induce body fatigue, such as welders and burners that use vibratory pneumatic tools in tasks such as smoothing welds or removing paint. These pneumatic tools can cause tendon, nerve or neurovascular disorders
 - Requiring worker in hot environments (such as tanks) to take breaks in cool areas and providing fluids for re-hydration
 - Proper housekeeping. Reducing clutter reduces the chances for an accident and minimizes the effects if an accident occurs.
 - Conducting hearing tests
 - Providing the proper PPE, such as being sure brazing shields provide the proper protection from harmful UV radiation generated through the brazing process
 - Directing welders to use their hands and not their necks to raise and lower their welding hoods. Using the neck can cause neck trauma.
 - Safety training throughout the organization
-

Lesson 7: Hazard Identification, Assessment and Control (Cont.)

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, protective clothing and/or equipment PPE may be required. Typical PPE for shipyard workers includes:

- Hard hat
- Safety glasses
- Safety boots (hard toed)
- Gloves
- Sleeved shirt
- Long pants (no shorts or cut-offs)
- Hearing protection
- Flashlight or lightstick

This list is obviously no all inclusive. Each task should be evaluated to determine the PPE required for that task.

Personal Protective Equipment (PPE)

PPE should not be used as a substitute for the following controls:

- Engineering
- Administrative controls

Example: Cleaning operations present a significant risk for skin, eye, and respiratory exposure to toxic and corrosive chemicals of shipyard operations. Cleaning operations often require the use of respiratory protection equipment. A respirator is not meant to be worn during an entire work shift. Other methods such as a ventilation system or replacement of hazardous substances/processes should be utilized.

Lesson 7: Hazard Identification, Assessment and Control (Cont.)

Employer Responsibilities

In general, employers are responsible for:

- Performing a "hazard assessment" of the workplace to identify and control physical and health hazards
 - Identifying and providing appropriate PPE for employees
 - Training employees in the use and care of the PPE
 - Maintaining PPE, including replacing worn or damaged PPE
 - Periodically reviewing, updating and evaluating the effectiveness of the PPE program
-

Employee Responsibilities

In general, employees should:

- Properly wear PPE
 - Attend training sessions on PPE
 - Care for, clean and maintain PPE
 - Inform a supervisor of the need to repair or replace PPE.
-

PPE Examples

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

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

Interim measures do not take the place of Engineering Controls, Administrative Controls or PPE. These are not controls, these are **temporary measures**.

Lesson 7: Hazard Identification, Assessment and Control (Cont.)

Exercise

For each Hazard Control, list examples found in your company.

Engineering	Administrative	PPE	Interim

Quiz 1 Multiple Choice

Multiple Choice: For each of the following questions, circle the letter that best answers the question.

1. The three important Hazard Identification processes discussed in this lesson are:
 - A. [Audits conducted by OSHA]
 - B. [Walkaround Inspections]
 - C. [Comprehensive Survey]
 - D. [Observations]
 - E. [A,B and C]
 - F. [B, C and D]

Quiz 2 Put In Order

Put In Order: Below are the steps used in conducting a Job Safety Analysis. Place them in the correct order by putting the number 1 in front of the first step, the number 2 in front of the second step, and so forth.

- ___ Observing the task
 - ___ Breaking the task down into activities or steps
 - ___ Analyzing each step for safety or operational needs
 - ___ Recommending procedures to meet those needs
-

Lesson 7: Hazard Identification, Assessment and Control (Cont.)

Quiz 3 Matching

Matching: Use the following table to complete the exercise below:

Type of Control	Then write ...
Engineering Control	E
Administrative Control	A
PPE	P
Interim Control	I

Control	Type
I am tape holding down wiring	
I am a procedure limiting the time you can wear a respirator	
I am a hard hat	
I am a ventilation hood removing smoke in a confined space	

Lesson 8: Emergency Preparedness and Response

Introduction September 11 reminds us, among other things, of the need to have written emergency plans, developed with care and foresight before we are hit with a disaster, whether it is an on-board fire, a chemical spill in the shop or a calculated act of violence.

What Your Plan Should Cover The plan should cover a variety of hazards, not just fire or chemical hazards. Your management team and/or safety committee needs to select the hazards to cover in your local plans, as an example, in San Diego County, typical plans would include the following:

- Fires
 - Earthquakes
 - Hazardous Materials Incidents
 - Violence (such as bomb threats and gun violence)
 - Biohazard threats (such as anthrax)
-

Plan Requirements Each Safety Plan must have the following components:

- Person or persons authorized to take action for the type of emergency encountered.
 - Persons or groups to be notified, such as plant fire team and/or the fire department.
 - Resources appropriate to respond to the threat, such as evacuation check lists, internal chain of command, appropriate emergency telephone numbers, etc.
 - A “to-do” list for the first person responding to the emergency, which might be the office or plant secretary or someone in the shop or office.
 - All of the above elements of this list should be written down on a single page, or at most on two pages. All the key information should be at his/her fingertips, and this list must be widely available in the yard and shop.
-

Fire Safety Plan **Employer responsibilities:** OSHA requires that “the employer must develop and implement a written fire safety plan that covers all the actions that employers and employees must take to ensure employee safety in the event of a fire.”

Contract employers: “Contract employers in shipyard employment must have a fire safety plan for their employees, and this plan must comply with the host employer’s fire safety plan.”

Lesson 8: Emergency Preparedness and Response (Cont.)

Exit Routes

There should be two routes of exit from every area of the plant or ship (except for confined spaces). This is required both by OSHA Regulations and local fire codes.

Note: The routes should not involve travel near high-hazard areas, such as going by fuel tanks or storage areas for flammable materials.

Staging Area

For a small operation the staging (muster) area may just be the building parking lot. Aboard ship it may be the dry dock. If you work in a multi-story building, a more specific location is needed, such as a particular corner or in front of a specific store, etc.

Note: In case of a potential disaster like a threatened building collapse or explosion, as in the World Trade Center situation, the local fire or police officers may order immediate evacuation of all nearby areas.

Important: Some way of accounting for all persons in a plant or other building is required so that rescue personnel don't end up going needlessly into a burning building or one threatening to collapse.

Plan Accessibility

Copies of the plan need to be placed in many known, accessible locations throughout the shop and reviewed by the team going out to a ship.

In time of emergency, you can't depend on your supervisor to tell you where it is. They may be off duty that day, at another site, or busy doing something else at the moment in response to the emergency.

Example: At least one full copy should be located in every department or division of the plant or office, and all employees should know where their nearest copy is located.

Communicating the Plan

Elements of the final plan have to be communicated to every man and woman working in the facility. What good is a plan if only a few people know about it?

Example: Remember the Exxon Valdez, the tanker that spilled oil into the harbor in Valdez, Alaska? They had a nine-volume emergency plan, which none of the ship's employees had ever read before the spill. And once disaster hit, they didn't have time to start a reading it!

Lesson 8: Emergency Preparedness and Response (Cont.)

Additional Issues

Issues for the *Emergency Response Committee* to think about include:

- Your regular communication system may not be in operation during an emergency. What are the back-up plans?
 - The key administrator may be out of the office or plant when an emergency occurs. Who takes over?
 - What about temporary employees in the plant during an emergency, such as a temporary administrative assistant? Is a buddy system in place for them?
 - Do the plans include provisions for disabled persons in the building? For example, persons in wheelchairs, or persons whose hearing or vision is impaired?
-

Practice 1

You or your employees are on-board a ship and there is an emergency. What do you or they do?

Practice 2

In your shop, identify below the most effective locations to place your company's emergency plan.

Lesson 8: Emergency Preparedness and Response (Cont.)

Quiz
True or False

1. T ___ F ___
Every Emergency Preparedness and Response Plan will be the same, regardless of industry or location.

 2. T ___ F ___
An Emergency Preparedness and Response Plan should have the home phone number of your local OSHA Representative.

 3. T ___ F ___
A staging (muster) area is an area where employees should gather during an emergency.

 4. T ___ F ___
To ensure effective document control there should be one copy of the Emergency Preparedness and Response Plan in each shop, in a central location.
-

Lesson 9: Accident Investigation and Corrective Action

Definition of an Accident!

An *unfortunate* event resulting especially from carelessness or ignorance!
(Merriam-Webster Dictionary)

Definition of “Unfortunate” in a Shipyard

Unfortunate often means:

- Injury

and can mean:

- Death
-

The Three Reasons to Investigate an Accident

Below are the three reasons we should always investigate an accident:

- Find the cause
 - Prevent similar accidents
 - Protect company interests
-

The Five Step Investigation Process

A tried and true accident investigation process is:

1. Control the scene
 2. Gather data
 3. Analyze data
 4. Write the final report
 5. Implement corrective action
-

1. Control the Scene

When controlling the scene it is important to do the following:

- Provide medical care for the injured. This could be either providing first aid or transporting the injured for medical care.
 - Control existing hazards. This will prevent further injuries and identify if you need more help
 - Preserve evidence. You may find evidence that will support your investigation like, an oily deck, or a broken ladder, etc.
-

Lesson 9: Accident Investigation and Corrective Action (Cont.)

Recordable Injury

You also must record the injury if the injury results in any of the following:

- Deaths
- Days away from work
- Restricted work or transfer to another job
- Medical treatment beyond first aid
- Loss of consciousness
- If injury is diagnosed by a physician or other licensed health care professional

Other reporting requirements may apply.

2. Gather Data

After controlling the scene, the next step is to gather data. There are different types of data you can gather:

- Photos of the accident scene
 - Drawings, sketches and measurements
 - Written data. When gathering written data, think of the who, what, where, and when of the situation:
 - Who (Persons involved/witnesses)
 - What (Activities going on at the time of the accident/equipment involved)
 - Where (Specific location of the accident)
 - When (Date and time)
-

Information Interviews

When interviewing injured parties and witnesses at the scene use the following interview techniques:

- Gather just the facts--make no judgments or statements
 - Conduct interviews one at a time as a witness' observations may be colored by comments made by other witnesses
 - Secure a private location
 - Be friendly but professional
 - Conduct interviews near the scene in private
 - Interview all people involved
-

Lesson 9: Accident Investigation and Corrective Action (Cont.)

3. Analyze Data

The third step in the investigation process is to analyze the data that you gathered. To analyze data:

- Gather all photos, drawings, interview material and other information collected at the scene
 - Determine a clear picture of what happened
 - Flowchart the sequence of events
 - Use the “5 Whys”; ask “why?” five times until you uncover the root cause.
-

4. Write the Final Report

In writing the final report, begin with background information. Refer back to the Who, What, Where and When. Next :

- List all those involved and other witnesses
 - Give an account of the accident--sequence of events, injuries, extent of damage, accident type and source.
 - Finally, write the cause of the accident.
-

5. Implement Corrective Action

To implement corrective action, identify what controls need to be changed or improved (see Lesson 7; Hazard Identification, Assessment and Control) to prevent similar accidents in the future. These controls will typically be Engineering, Administrative, or PPE. You may also find that training may be helpful. Your corrective action plan will likely not be implemented if it is not in writing (procedure) and/or if there isn't an action plan to support the change.

Lesson 9: Accident Investigation and Corrective Action (Cont.)

Exercise

- A. Identify an accident that occurred on the job.
- B. For each step of the 5-step process (Far Left Column entitled “Step”),
- C. Rate yourself (Column entitled Rating) on how well you completed that step using the following scale: 1 = Poor, 2 = Needs Improvement, 3 = Good, and 4 = Excellent.
- D. In the far right column, identify how you could have improved each step of the process.

A. Accident: _____

B. Step	Rating	Improvements
Control the Scene		
Gather Data		
Analyze Data		
Write Final Report		
Implement Corrective Action		

Lesson 9: Accident Investigation and Corrective Action (Cont.)

Quiz Matching

Matching: Use the following table to complete the exercise below regarding the Accident Investigation and Corrective Action Process

If I am related to....	Then write ...
Controlling the Scene	C
Gathering Data	G
Analyzing Data	A
Writing the Final Report	W
Implementing Corrective Action	I

Step in the Process	Process
Give an account of the accident--sequence of events, injuries, extent of damage, accident type and source.	
Review all photos, drawings, interview material and other information collected at the scene	
Stabilize existing hazards. This will prevent further injuries and identify if you need more help.	
Identify the who, what, where, and when of the situation	
Training may be helpful	

Lesson 10: SHMS Implementation and Monitoring

Safety Roadmap

Whether you are just beginning to implement a SHMS or you want to evaluate how your current system is performing, it is helpful to have a roadmap.

During implementation, a roadmap can serve as your guide in determining what you have accomplished, and what your next steps should be.

If you have an existing SHMS a regular review of the safety program ensures continuous improvement in safety. Regular evaluations should be conducted to evaluate:

- Safety performance
- Safety training
- Compliance with safety rules and regulations

The effectiveness of the safety process is continually monitored through the analysis of statistics against company-established goals and industry-wide data.

OSHA Support

The following Assessment Worksheets are found on OSHA's web site "Safety and Health Management eTool". These assessments can serve as a roadmap in both implementing your safety program and evaluating its effectiveness. On the OSHA website you will be able to use these worksheets to "score" your organization's safety performance. The OSHA link is:

http://www.osha.gov/SLTC/etools/safetyhealth/asmnt_worksheet.html .

Lesson 10: SHMS Implementation and Monitoring (Cont.)

OSHA's Assessment Worksheets

Safety and Health Program Assessment Worksheet

If you want to find out how your safety and health program measures up, take a few minutes to complete the following survey. For each section, there is a set of questions. Select the answer that most accurately reflects your workplace system. You will then be able to get a rating (on the website).

There are no right or wrong answers. This check-up will help identify areas where improvements can be made.

Note: depending on your web browser security options, you may need to "allow blocked content" and "allow pop-up windows" in order for portions of this assessment form to work properly. The assessments cover:

Management Leadership and Employee Participation

Worksite Analysis

Hazard Prevention and Control

Safety and Health Training

I. Management Leadership and Employee Involvement

A. Clear worksite safety and health policy	1.	<input type="checkbox"/> We have a S&H policy and all employees accept, can explain, and fully understand it
		<input type="checkbox"/> We have a S&H policy and majority of employees can explain it
		<input type="checkbox"/> We have a S&H policy and some employees can explain it
		<input type="checkbox"/> We have a written (or oral, where appropriate) policy
		<input type="checkbox"/> We have no policy

B. Clear goals and objectives are set and communicated	2.	<input type="checkbox"/> All employees are involved in developing goals and can explain desired results and how results are measured
		<input type="checkbox"/> Majority of employees can explain results and measures for achieving them
		<input type="checkbox"/> Some employees can explain results and measures for achieving them
		<input type="checkbox"/> We have written (or oral, where appropriate) goals and objectives
		<input type="checkbox"/> We have no safety and health goals and objectives

Lesson 10: SHMS Implementation and Monitoring (Cont.)

C-1. Management Leadership	3.	<input type="checkbox"/> All employees can give examples of management's commitment to safety and health <input type="checkbox"/> Majority of employees can give examples of management's active commitment to safety and health <input type="checkbox"/> Some employees can give examples of management's commitment to safety and health <input type="checkbox"/> Some evidence exists that top management is committed to safety and health <input type="checkbox"/> Safety and health is not a top management value or concern
C-2. Management example	4.	<input type="checkbox"/> All employees recognize that managers in this company always follow the rules and address the safety behavior of others <input type="checkbox"/> Managers follow the rules and usually address the safety behavior of others <input type="checkbox"/> Managers follow the rules and occasionally address the safety behavior of others <input type="checkbox"/> Managers generally follow basic safety and health rules <input type="checkbox"/> Managers do not follow basic safety and health rules
D. Employee involvement	5.	<input type="checkbox"/> All employees have ownership of safety and health and can explain their roles <input type="checkbox"/> Majority of employees feel they have a positive impact on identifying and resolving safety and health issues <input type="checkbox"/> Some employees feel that they have a positive impact on safety and health <input type="checkbox"/> Employees generally feel that their safety and health input will be considered by supervisors <input type="checkbox"/> Employee involvement in safety and health issues is not encouraged nor rewarded
E. Assigned safety and health responsibilities	6.	<input type="checkbox"/> All employees can explain what performance is expected of them <input type="checkbox"/> Majority of employees can explain what performance is expected of them <input type="checkbox"/> Some employees can explain what performance is expected of them <input type="checkbox"/> Performance expectations are generally spelled out for all employees <input type="checkbox"/> Specific job responsibilities and performance expectations are generally unknown or hard to find
F. Authority and resources for safety and health	7.	<input type="checkbox"/> All employees believe they have the necessary authority and resources to meet their responsibilities <input type="checkbox"/> Majority of employees believe they have the necessary authority and resources to meet their responsibilities <input type="checkbox"/> Authority and resources are spelled out for all, but there is often a reluctance to use them <input type="checkbox"/> Authority and resources exist, but most are controlled by supervisors <input type="checkbox"/> All authority and resources come from supervision and are not delegated

Lesson 10: SHMS Implementation and Monitoring (Cont.)

G. Accountability	8.	<input type="checkbox"/> Employees are held accountable and all performance is addressed with appropriate consequences
		<input type="checkbox"/> Accountability systems are in place, but consequences used tend to be for negative performance only
		<input type="checkbox"/> Employees are generally held accountable, but consequences and rewards do not always follow performance
		<input type="checkbox"/> There is some accountability, but it is generally hit or miss
		<input type="checkbox"/> There is no effort towards accountability

H. Program Review (Quality Assurance)	9.	<input type="checkbox"/> In addition to a comprehensive review, a process is used which drives continuous correction
		<input type="checkbox"/> A comprehensive review is conducted at least annually and drives appropriate program modifications
		<input type="checkbox"/> A program review is conducted, but it doesn't drive all necessary program changes
		<input type="checkbox"/> Changes in programs are driven by events such as accidents or near misses
		<input type="checkbox"/> There is no program review process

I. Management Leadership and Employee Involvement Action Plan

What Needs To Be Done	Responsible Person	Due Date	Comments Resources

Lesson 10: SHMS Implementation and Monitoring (Cont.)

II. Workplace Analysis

A-1. Hazard identification (Expert survey)	10.	<input type="checkbox"/> Comprehensive expert surveys are conducted regularly and result in corrective action and updated hazard inventories <input type="checkbox"/> Comprehensive expert surveys are conducted periodically and drive appropriate corrective action <input type="checkbox"/> Comprehensive expert surveys are conducted, but corrective actions sometimes lags <input type="checkbox"/> Expert surveys in response to accidents, complaints, or compliance activity only <input type="checkbox"/> No comprehensive surveys have been conducted
A-2. Hazard identification (Change analysis)	11.	<input type="checkbox"/> Every planned or new facility, process, material, or equipment is fully reviewed by a competent team, along with affected workers <input type="checkbox"/> Every planned or new facility, process, material, or equipment is fully reviewed by a competent team <input type="checkbox"/> High hazard planned or new facility, process, material or equipment are reviewed <input type="checkbox"/> Hazard reviews of planned or new facilities, processes, materials, or equipment are problem driven <input type="checkbox"/> No system for hazard review of planned or new facilities exists
A-3. Hazard identification (Job and process analysis)	12.	<input type="checkbox"/> A current hazard analysis exists for all jobs, processes, and material; it is understood by all employees; and employees have had input into the analysis for their jobs <input type="checkbox"/> A current hazard analysis exists for all jobs, processes, and material and it is understood by all employees <input type="checkbox"/> A current hazard analysis exists for all jobs, processes, or phases and is understood by many employees <input type="checkbox"/> A hazard analysis program exists, but few are aware of it <input type="checkbox"/> There is no routine hazard analysis system in place
A-4. Hazard identification (Inspection)	13.	<input type="checkbox"/> Employees and supervisors are trained, conduct routine joint inspections, and all items are corrected <input type="checkbox"/> Inspections are conducted and all items are corrected; repeat hazards are seldom found <input type="checkbox"/> Inspections are conducted and most items are corrected, but some hazards are still uncorrected <input type="checkbox"/> An inspection program exists, but corrective action is not complete; hazards remain uncorrected <input type="checkbox"/> There is no routine inspection program in place and many hazards can be found

Lesson 10: SHMS Implementation and Monitoring (Cont.)

B. Hazard Reporting System	<input type="checkbox"/>	A system exists for hazard reporting, employees feel comfortable using it, and employees feel comfortable correcting hazards on their own initiative.
	<input type="checkbox"/>	A system exists for hazard reporting and employees feel comfortable using it.
	<input type="checkbox"/>	A system exists for hazard reporting and employees feel they can use it, but the system is slow to respond.
	<input type="checkbox"/>	A system exists for hazard reporting but employees find it unresponsive or are unclear how to use it.
	<input type="checkbox"/>	There is no hazard reporting system and/or employees are not comfortable reporting hazards.

C. Accident/Incident Investigation	<input type="checkbox"/>	All loss-producing incidents and near-misses are investigated for root cause with effective prevention.
	<input type="checkbox"/>	All OSHA-reportable incidents are investigated and effective prevention is implemented.
	<input type="checkbox"/>	OSHA-reportable incidents are generally investigated; accident cause and/correction may be inadequate.
	<input type="checkbox"/>	Some investigation of incidents takes place, but root cause is seldom identified and correction is spotty.
	<input type="checkbox"/>	Injuries are either not investigated or investigation is limited to report writing required for compliance.

D. Injury/illnesses analysis	<input type="checkbox"/>	Data trends are fully analyzed and displayed, common causes are communicated, management ensures prevention; and employees are fully aware of trends, causes, and means of prevention.
	<input type="checkbox"/>	Data trends are fully analyzed and displayed, common causes are communicated, and management ensures prevention.
	<input type="checkbox"/>	Data is centrally collected and analyzed and common causes are communicated to supervisors.
	<input type="checkbox"/>	Data is centrally collected and analyzed but not widely communicated for prevention.
	<input type="checkbox"/>	Little or no effort is made to analyze data for trends, causes, and prevention.

II. Workplace Analysis Action Plan

What Needs To Be Done	Responsible Person	Due Date	Comments Resources

Lesson 10: SHMS Implementation and Monitoring (Cont.)

III. Hazard Prevention and Control

A. Timely and effective hazard control	17.	<input type="checkbox"/> Hazard controls are fully in place, known to and supported by workforce, with concentration on engineering controls and safe work procedures <input type="checkbox"/> Hazard controls are fully in place with priority to engineering controls, safe work procedures, administrative controls, and personal protective equipment (in that order) <input type="checkbox"/> Hazard controls are fully in place, but there is some reliance on personal protective equipment <input type="checkbox"/> Hazard controls are generally in place, but there is heavy reliance on personal protective equipment <input type="checkbox"/> Hazard control is not complete, effective, and appropriate
B. Facility and Equipment Maintenance	18.	<input type="checkbox"/> Operators are trained to recognize maintenance needs and perform and order maintenance on schedule <input type="checkbox"/> An effective preventive maintenance schedule is in place and applicable to all equipment <input type="checkbox"/> A preventive maintenance schedule is in place and is usually followed except for higher priorities <input type="checkbox"/> A preventive maintenance schedule is in place but is often allowed to slide <input type="checkbox"/> There is little or no attention paid to preventive maintenance; break-down maintenance is the rule
C-1. Emergency Planning and Preparation	19.	<input type="checkbox"/> There is an effective emergency response plan and employees know immediately how to respond as a result of effective planning, training, and drills <input type="checkbox"/> There is an effective emergency response plan and employees have a good understanding of responsibilities as a result of plans, training, and drills <input type="checkbox"/> There is an effective emergency response plan and team, but other employees may be uncertain of their responsibilities <input type="checkbox"/> There is an effective emergency response plan, but training and drills are weak and roles may be unclear <input type="checkbox"/> Little effort is made to prepare for emergencies

Lesson 10: SHMS Implementation and Monitoring (Cont.)

C-2. Emergency Equipment	20.	<input type="checkbox"/> Facility is fully equipped for emergencies; all systems and equipment are in place and regularly tested; all personnel know how to use equipment and communicate during emergencies
		<input type="checkbox"/> Facility is well equipped for emergencies with appropriate emergency phones and directions; majority of personnel know how to use equipment and communicate during emergencies
		<input type="checkbox"/> Emergency phones, directions and equipment are in place, but only emergency teams know what to do
		<input type="checkbox"/> Emergency phones, directions and equipment are in place, but employees show little awareness
		<input type="checkbox"/> There is little or no effort made to provide emergency equipment and information

D-1. Medical Program (Health Providers)	21.	<input type="checkbox"/> Occupational health providers are regularly on-site and fully involved
		<input type="checkbox"/> Occupational health providers are involved in hazard assessment and training
		<input type="checkbox"/> Occupational health providers are consulted about significant health concerns in addition to accidents
		<input type="checkbox"/> Occupational health providers are available, but normally concentrate on employees who get hurt
		<input type="checkbox"/> Occupational health assistance is rarely requested or provided

D-2. Medical Program (Emergency Care)	22.	<input type="checkbox"/> Personnel fully trained in emergency medicine are always available on-site
		<input type="checkbox"/> Personnel with basic first aid skills are always available on-site, all shifts
		<input type="checkbox"/> Either on-site or near-by community aid is always available on day shift
		<input type="checkbox"/> Personnel with basic first aid skills are usually available, with community assistance nearby
		<input type="checkbox"/> Neither on-site nor community aid can be ensured at all times

III. Hazard Prevention and Control Action Plan

What Needs To Be Done	Responsible Person	Due Date	Comments Resources

Lesson 10: SHMS Implementation and Monitoring (Cont.)

IV. Safety and Health Training

A. Employees Learn Hazards (How to Protect Themselves and Others)	23.	<input type="checkbox"/> Facility is committed to high quality employee hazard training, ensures all participate, and provides regular updates; in addition, employees can demonstrate proficiency in, and support of, all areas covered by training <input type="checkbox"/> Facility is committed to high quality employee hazard training, ensures all participate, and provides regular updates <input type="checkbox"/> Facility provides legally required training and makes effort to include all employees <input type="checkbox"/> Training is provided when the need is apparent; experienced employees are assumed to know the material <input type="checkbox"/> Facility depends on experience and informal peer training to meet needs
B-1. Supervisors Learn Responsibilities and Underlying Reasons	24.	<input type="checkbox"/> All supervisors assist in worksite hazard analysis, ensure physical protections, reinforce training, enforce discipline and can explain work procedures based on the training provided to them <input type="checkbox"/> Most supervisors assist in worksite hazard analysis, ensure physical protections, reinforce training, enforce discipline and can explain work procedures based on the training provided to them <input type="checkbox"/> Supervisors have received basic training, appear to understand and demonstrate importance of worksite hazard analysis, physical protections, training reinforcement, discipline and knowledge of work procedures <input type="checkbox"/> Supervisors make responsible efforts to meet safety and health responsibilities, but have limited training <input type="checkbox"/> There is no formal effort to train supervisors in safety and health responsibilities
B-2. Managers Learn Safety and Health Program Management	25.	<input type="checkbox"/> All managers have received formal training in safety and health management responsibilities <input type="checkbox"/> All managers follow, and can explain, their roles in safety and health program management <input type="checkbox"/> Managers generally show a good understanding of their safety and health roles and usually model them <input type="checkbox"/> Managers are generally able to describe their safety and health roles, but often have trouble modeling them <input type="checkbox"/> Managers generally show little understanding of their safety and health management responsibilities

Lesson 10: SHMS Implementation and Monitoring (Cont.)

IV. Safety and Health Training Control Action Plan

What Needs To Be Done	Responsible Person	Due Date	Comments Resources

Quiz
Multiple Choice

1. When assessing your organization's safety performance, what are the key area(s) that OSHA suggests you focus?
 - A. [Management Leadership and Employee Participation]
 - B. [Worksite Analysis]
 - C. [Hazard Prevention and Control]
 - D. [Safety and Health Training]
 - E. [All of the above]
-

Lesson 11: Continual Improvement

All Processes Can Be Improved!

As you have completed these lessons, you may have identified some elements of your SHMS that you believe should be improved. OSHA's Safety and Health Management System eTool can help get you started. See the section "Management Processes Typically Ripe for Improvement" below.

"Management Processes Typically Ripe for Improvement"

(From OSHA'S Safety and Health Management System eTool)

Management Processes Typically Ripe for Improvement

- Define safety responsibilities for all levels of the organization, e.g., safety is a line management function.
 - Develop upstream measures, e.g., number of reports of hazards/suggestions, number of committee projects/successes, etc.
 - Align management and supervisors by establishing a shared vision of safety and health goals and objectives vs. production.
 - Implement a process that holds managers and supervisors accountable for visibly being involved, setting the proper example, and leading a positive change for safety and health.
 - Evaluate and rebuild any incentives and disciplinary systems for safety and health, as necessary.
 - Ensure the Safety Committee is functioning appropriately, e.g., membership, responsibilities/functions, authority, meeting management skills.
 - Provide multiple paths for employees to bring forward suggestions, concerns, or problems. One mechanism should use the chain of command and ensure no repercussions. Hold supervisors and middle managers accountable for being responsive.
 - Develop a system that tracks and ensures timeliness in hazard correction. Many sites have been successful in building this in with an already existing work order system.
-

Lesson 11: Continual Improvement (Cont.)

“Management Processes Typically Ripe for Improvement”

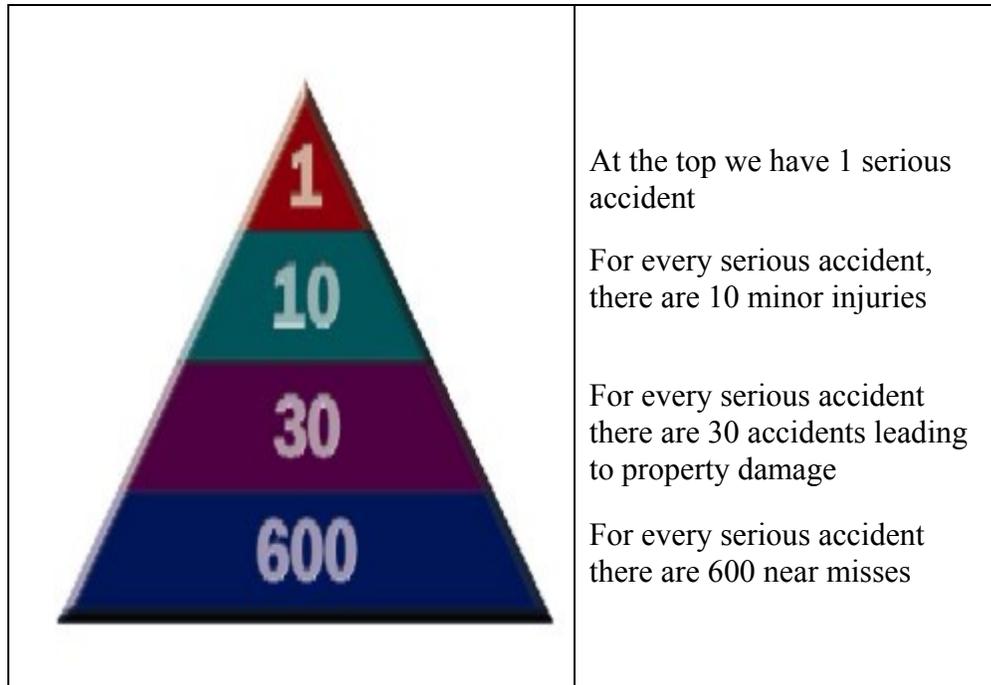
(From OSHA’S Safety and Health Management System eTool)

Management Processes Typically Ripe for Improvement (Cont.)

- Ensure reporting of injuries, first aid cases, and the near misses. Educate employees about the *accident pyramid and importance of reporting minor incidents. Prepare management for an initial increase in incidents and a rise in rates. This will occur if underreporting exists in the organization. It will level off, then decline as the system changes take hold.
 - Evaluate and rebuild the incident investigation system as necessary to ensure that investigations are timely, complete, and effective. They should get to the root causes and avoid blaming workers.
-

Accident Pyramid

*Frank Bird, a US safety researcher, discovered that for every serious workplace accident there were 600 near misses. Bird's findings are shown in the pyramid diagram below



Lesson 11: Continual Improvement (Cont.)

Plan-Do-Check-Act

The PDCA Cycle was originally conceived by Walter Shewhart in 1930's, and later adopted by W. Edwards Deming. The model provides a framework for the improvement of a process or system. It can be used to guide the entire SHMS improvement process, or to develop specific projects once target improvement areas have been identified.

Plan- Identify the potential improvement and generate ideas to bring it about. Make sure to anticipate problems so that no costs are added through waste of labor, time and materials.

Do- Implement the change slowly on a small scale to avoid major disruptions.

Check- Measure to find out whether the change has accomplished the objective. What to measure and how often should have been determined during the planning stage.

Act- If the small-scale change was effective, involve everyone in the process to review and implement the change on a large scale. Then plan for the next change necessary.



The PDCA cycle is designed to be used as a dynamic model. The completion of one turn of the cycle flows into the beginning of the next. Following in the spirit of *continuous* safety improvement, the process can always be re-analyzed and a new cycle of change can begin.

Lesson 11: Continual Improvement (Cont.)

Quiz Matching

Matching: Use the following table to complete the exercise below based on the PDCA Cycle

If I am in the	Then write ...
“Plan” Phase	P
“Do” Phase	D
“Check” Phase	C
“Act” Phase	A

Activity	Phase
Involve everyone in the process	
Implement the change on a small scale	
Identify the potential improvement	
Measure to find out whether the change has accomplished the objective	

Lesson 12: Implementation Challenges and Strategies

The Need for an Effective Safety and Health Management System

During the course of this training, we have identified many reasons to implement an effective SHMS. Obviously no one wants to experience injuries, or even death. There is however, another very good reason to implement an effective SHMS. It just makes good business sense. In these economic times, most companies can't afford not to have an effective SHMS!

Regarding the cost of workplace injuries and illnesses, OSHA's website states the following; "estimates indicate that workplace injuries and illnesses cost our nation's businesses \$170 billion per year in wasteful and often preventable expenses."

Implementing an effective SHMS will reduce the number and severity of accidents at work. This reduction will result in reduced injury-related costs which should far exceed the cost of implementing a workplace SHMS.

OSHA's 10 Most Frequently Cited Violations of 2008-Exercise

Listed below are OSHA's 10 most frequently cited violations for 2008. Based on the work you do, circle each potential violation in which your company may be exposed:

1. Scaffolding
2. Hazard Communication
3. Fall Protection
4. Respiratory Protection
5. Lock-out/Tag-out
6. Electrical Wiring
7. Powered Industrial Trucks
8. Ladders
9. Machine Guarding
10. Electrical

It is likely you circled at least one and probably several of the above. If this is the case, your organization is likely at risk for fines or worse, employee injuries. Implementing an effective SHMS will reduce this risk!

Lesson 12: Implementation Challenges and Strategies (Cont.)

OSHA: A Good Place to Start

You may already have an effective SHMS in place. For you, the goal is to continually improve your system. However, if you do not have a SHMS in place a good place to start is with OSHA.

OSHA Resources

(From OSHA's Fact Sheet <http://www.osha.gov/Publications/safety-health-management-systems.pdf>)

OSHA Resources to Assist Employers with SHMS

- Small and medium-sized employers can benefit from OSHA's "Small Business Handbook" which contains specific information about SHMS: www.osha.gov/Publications/smallbusiness/small-business.html
 - OSHA's "Compliance Assistance Quick Start" Web page is another online resource providing SHMS information: www.osha.gov/dcsp/compliance_assistance/quickstarts/index.html
 - OSHA's "Hazard Awareness Advisor" is an online tool to assist in identifying and correcting safety and health workplace hazards: www.osha.gov/dts/osta/oshasoft/hazexp.html
 - Employers seeking more comprehensive SHMS information, especially those with a safety and health professional on staff, can work with OSHA's Voluntary Protection Programs: www.osha.gov/dcsp/vpp/index.html and/or benefit from OSHA's "SHMS eTool": www.osha.gov/SLTC/etools/safetyhealth/index.html
-

Lesson 12: Implementation Challenges and Strategies (Cont.)

Additional OSHA Resources

Additional OSHA resources available to you at no cost are listed below.

Take Advantage of Free OSHA Assistance

(From
OSHA's Fact
Sheet
<http://www.osha.gov/Publications/safety-health-management-systems.pdf>)

- Compliance Assistance Specialists are available in every OSHA Area Office to help you. Find the one, and their contact information, in your local area:
http://www.osha.gov/dcsp/compliance_assistance/cas.html
 - You may also contact your state's OSHA Onsite Consultation program for free, expert assistance:
www.osha.gov/consultation
 - The States that operate OSHA-approved State plans (such as Cal OSHA) can also provide assistance; some have specific requirements for SHMS:
www.osha.gov/dcsp/osp/index.html
 - OSHA's "\$afety Pays" program is an interactive expert system to assist employers in estimating the costs of occupational injuries and illnesses and the impact on a company's profitability:
<http://www.osha.gov/dcsp/smallbusiness/safetypays/index.html>
-

Lesson 12: Implementation Challenges and Strategies (Cont.)

**Exercise
Challenges
and Strategies
Exercise**

Step One: Brainstorm all challenges you see with implementing or improving your SHMS under the left column entitled “Challenges.”

Step Two: For each challenge identified under the left column brainstorm a strategy to overcome the challenge under the right column entitled “Strategies”

Step Three: Complete the Implementation Plan on the following page for at least your top two strategies.

Challenges	Strategies
1.	1.
2.	2.
3.	3.
4.	4.
5.	5.
6.	6.
7.	7.
8.	8.
9.	9.
10.	10.

Lesson 12: Implementation Challenges and Strategies (Cont.)

What Needs To Be Done	Responsible Person	Due Date	Comments Resources

Post-Test

Name:

Date:

Class: Implementing a Shipyard Safety and Health Management System

Post – Assessment

Multiple Choice: For each of the following questions, circle the letter that best answers the question.

1. What is a Safety and Health Management System?
 - D. [A set of interrelated elements that support occupational safety and health policy and objectives]
 - E. [Mechanisms that are in place to achieve safety objectives]
 - F. [Methods that are in place to continually improve safety and health performance]
 - D. [All of the above]

True or False: For each statement below, circle True or False.

- | | | |
|------|-------|--|
| True | False | 2. A Safety and Health Management System costs an employer more money, but it’s worth it |
| True | False | 3. One benefit of implementing an effective Safety and Health Management System is that employee morale goes up |
| True | False | 4. The shipyard environment is more hazardous than most work environments |
| True | False | 5. To be most effective, safety and health must be balanced with, and incorporated into, an organization’s other core business processes |
| True | False | 6. A systematic approach to safety seeks a long-term solution rather than a one-time fix. |

Matching: For each safety “responsibility” listed in the left column, identify who it *best applies to* in the right column. For Management use “M”, for Supervisor use “S” and for Employee use “E”.

Responsibility	Who
7. Create and drive the company culture	
8. Stop a co-worker from working on the deck plate in an unsafe manner	
9. Document and report near misses	

Post-Test (Cont.)

Multiple Choice: For each of the following questions, circle the letter that best answers the question.

10. What are the most important factors in creating a culture of safe work practices?
- A. [Praise and Discipline]
 - B. [Networking and Compliance]
 - C. [Management Commitment and Employee Involvement]
 - D. [Decision Making and Problem Solving]

Identify and Circle: When providing safety training, OSHA has 6 documentation requirements. From the word bank below, circle those 6.

Word Bank (Questions 11-16)

<u>Department</u>	<u>Participant education level</u>	<u>Type of training</u>	<u>Length of time with company</u>
<u>Participant ethnicity</u>	<u>Number of hours of training</u>	<u>Verification that a person attended, such as a signature</u>	<u>Participant job title(s)</u>
<u>Date of the training</u>	<u>The OSHA standard referred to in the training</u>	<u>Class Level Beg./Inter./Adv</u>	<u>Who attended (name)</u>

Post-Test (Cont.)

True or False: For each statement below, circle True or False.

- | | | | |
|------|-------|-----|--|
| True | False | 17. | Your Safety Procedure Manual should provide the required documentation conveying to your workforce what safe work practices should be followed and how to follow them. |
| True | False | 18. | Your Safety Procedure Manual must be written by a certified OSHA professional. |
| True | False | 19. | The entire Safety Procedure Manual must be accessible (within 50 feet) to all employees. |

Fill in the Blank: For each sentence below, write *the best* word or words from the work bank that correctly completes the sentence. Note, not all words in the Word Bank will be used and none will be used more than once.

Word Bank

Competence	Subcontractors	Orientation Training	Forklift Training
Training	Supervisors	Long-Term Employees	Replacing
Confined Space	Ability	Safety Technicians	Integrated

20. [_____ is a standardized requirement for an individual to properly perform a specific job.]
21. [_____ refers to the acquisition of knowledge, skills, and competencies as a result of the teaching of vocational or practical skills and knowledge that relate to specific useful competencies.]
22. [Training for _____ should emphasize the importance of their role in visibly supporting the safety and health program and setting a good example.]
23. [_____ is a training topic not often found in many industries but often found in the shipyard.]
24. [Safety training is most effective when _____ with a company's overall training in performance requirements and job practices.]
25. [_____ should be provided to both employees and contractors.]
-

Post-Test (Cont.)

Multiple Choice: For each of the following questions, circle the letter that best answers the question.

26. To establish a culture of workplace safety, as well as to comply with Cal OSHA IIP Program, it is imperative that communication is not left to chance. Giving and receiving feedback with employees and contractors is vital. Therefore, organizations should implement and maintain a procedure for:
- A. [Praise and Discipline]
 - B. [Receiving, documenting and responding to relevant communications from external, interested parties]
 - C. [Instructions for the Safety Suggestion Box]
 - D. [Good Listening Skills]
27. Regarding Hazardous Communication, what is each employer *not* responsible for:
- A. [Providing a list of all company hazards to each employee in written form]
 - B. [Identify and list hazardous chemicals in their workplaces]
 - C. [Obtain MSDS's and labels for each hazardous chemical, if not provided by the manufacturer, importer or distributor]
 - D. [Implement a written HAZCOM program, including labels, MSDS's and employee training]
 - E. [Communicate hazard information to employees through labels, MSDS's and formal training programs]
28. Three important Hazard Identification processes are:
- A. [Audits conducted by OSHA]
 - B. [Walkaround Inspections]
 - C. [Comprehensive Survey]
 - D. [Observations]
 - E. [A,B and C]
 - F. [B, C and D]

Put In Order: Below are the steps used in conducting a Job Safety Analysis. Place them in the correct order by putting the number 1 in front of the first step, the number 2 in front of the second step, and so forth.

- 29. ___ Observing the task
 - 30. ___ Breaking the task down into activities or steps
 - 31. ___ Analyzing each step for safety or operational needs
 - 32. ___ Recommending procedures to meet those needs
-

Post-Test (Cont.)

Matching: Regarding Hazard Controls, use the following table to complete questions 35-38 by filling in the “Type” below:

If I am an	Then write ...
Engineering Control	E
Administrative Control	A
PPE	P
Interim Control	I

Control	Type
33. I am tape holding down wiring	
34. I am a procedure limiting the time you can wear a respirator	
35. I am a hard hat	
36. I am a ventilation hood removing smoke in a confined space	

True or False: For each statement below, circle True or False.

- | | | |
|------|-------|---|
| True | False | 37. Every Emergency Preparedness and Response Plan will be the same, regardless of industry or location. |
| True | False | 38. An Emergency Preparedness and Response Plan should have the home phone number of your local OSHA representative. |
| True | False | 39. A staging (muster) area is an area where employees should gather during an emergency. |
| True | False | 40. To ensure effective document control, there should be one copy of the Emergency Preparedness and Response Plan in each shop, in a central location. |

Post-Test (Cont.)

Matching: Regarding the Accident Investigation and Corrective Action Process, use the following table to complete the questions below:

Controlling the Scene	C
Gathering Data	G
Analyzing Data	A
Writing the Final Report	W
Implementing Corrective Action	I

Step in the Process	Process
41. Give an account of the accident--sequence of events, injuries, extent of damage, accident type and source.	
42. Review all photos, drawings, interview material and other information collected at the scene	
43. Stabilize existing hazards. This will prevent further injuries and identify if you need more help	
44. Identify the who, what, where, and when of the situation	
45. Training may be helpful	

Multiple Choice: For the following question, circle the letter that best answers the question.

46. When assessing your organization's safety performance, what are the key area(s) that OSHA suggests you focus?
- A. [Management Leadership and Employee Participation]
 - B. [Worksite Analysis]
 - C. [Hazard Prevention and Control]
 - D. [Safety and Health Training]
 - E. [All of the above]
-

Post-Test (Cont.)

Matching: Based on the **PDCA Improvement Cycle**, use the following table to complete questions 54-57 filling in each “Phase” below.

If I am in the	Then write ...
“Plan” Phase	P
“Do” Phase	D
“Check” Phase	C
“Act” Phase	A

Activity	Phase
47. Involve everyone in the process	
48. Implement the change on a small scale	
49. Identify the potential improvement	
50. Measure to find out whether the change has accomplished the objective	

Lesson 13: Train-The-Trainer

The Importance of Training

Training is the foundation of the SHMS. Employee safety training is vital for:

- Safety practices to be followed
- Identifying and eliminating hazards
- Implementing safety improvements
- Management to lead the safety effort

The specific type of training required at your location depends on the size and particular hazards involved at each work site.

This Lesson

In this lesson we will learn:

- Who needs training in which of the specific training lesson that make up this course
 - The basics regarding “how to train”
 - How to use the Implementing a Safety and Health Management System for Shipyard Workers Facilitator’s Guide
-

Lesson 13: Train-The-Trainer (Cont.)

Lessons that Will Benefit Employees Exercise

There are likely training lessons found in this course (ISHMS for Shipyard Workers) that will benefit your employees. Below the lesson titles are listed in the left column (Lessons). In the right column (Job Titles), for each lesson, identify by job title, who would benefit from instruction in that lesson

LESSONS	JOB TITLES
1. Introduction	
2. Responsibilities and Accountability	
3. Safe Work Practice and Training Documentation	
4. Safety Procedure Manual	
5. Workforce Safety Training	
6. Hazard Communication	
7. Hazard Identification, Assessment and Control	
8. Emergency Preparedness and Response	
9. Accident Investigation and Corrective Action	
10. SHMS Implementation and Monitoring	
11. Continual Improvement	
12. Implementation Challenges and Strategies	
13. Train-The-Trainer	

Lesson 13: Train-The-Trainer (Cont.)

Inspiring Learners

Learning is purely voluntary. You can not make someone learn. A trainer's first job is to inspire the learners to want to learn.

“The mediocre teacher tells. The good teacher explains. The superior teacher demonstrates. The great teacher inspires.” - *William Arthur Ward*

Inspiring Trainer

Characteristics

Inspiring trainers have a distinct set of skills/characteristics. These trainers:

- Speak clearly
 - Are organized
 - Are approachable
 - Are patient
 - Use a consistent approach
 - “Read” their participants
 - Are knowledgeable
 - Are confident
 - Are prepared
 - Are flexible
 - Are good listeners
 - Have a positive attitude
 - Make others feel comfortable
 - Give positive feedback
 - Ask questions
-

Preparation is the Key!

As with most any task, preparation is the key. Listed below are six things that can be done to prepare for delivering training:

- Know the material
 - Know the trainee's skill/knowledge of the subject
 - “Walk Through” the training material
 - Establish the physical environment
 - Design and use a material checklist
 - Anticipate questions
-

Lesson 13: Train-The-Trainer (Cont.)

Establishing the Physical Environment

It is easy to underestimate the importance of “where” training is conducted; however, the physical environment *is as important as any other element of training*, including the quality of the materials or the quality of the trainer! Below is a checklist that can be used to help ensure a physical training environment conducive to learning.

- Comfortable temperature
 - Comfortable chairs
 - Sufficient space
 - No distractions
 - Seating arranged to see instructor comfortably
 - Sufficient lighting
 - Easy restroom access
-

Designing and Using a Material Checklist

If you have delivered training and have forgotten a key item, such as your notes or the participant guides, you know how frustrating (as well as embarrassing) that can be! A Material Checklist can help you avoid this situation. Listed below is a typical Material Checklist. Yours will likely have to be modified to meet your specific needs.

- Trainer notes
- Trainee books
- Handouts
- Notepaper
- Pens
- Laptop
- Projector
- Screen
- Cords
- Flipchart stand/pad
- Markers
- Masking tape
- DVD
- Feedback form
- PPT/CD

Lesson 13: Train-The-Trainer (Cont.)

Structuring Exercises

As you have seen, this course has many exercises and quizzes. Adults learn by doing, therefore exercises can be an extremely valuable tool to support the transfer of learning from concept to application. The Facilitators Guide will support you in establishing the learning objectives for each exercise as well as how to structure, introduce and close each exercise. Some guidelines for structuring activities are:

- Be clear about learning objectives
 - Prepare the participants, materials and room
 - Be very clear regarding directions, even if you think they are obvious
 - Announce and keep time frames
 - Clarify your role as a trainer
 - Help the participants bridge the gap between theory and practice
-

The Key Elements of Delivery (V3- (Vocal, Verbal and Visual Image)

Remember when delivering training people are easily distracted. To reduce these distractions there are 3 key elements to keep in mind as you deliver training:

- Vocal (how you sound)
- Verbal (what you say)
- Visual Image (how you look)

There are a few simple things you can do for each of these key elements.

Lesson 13: Train-The-Trainer (Cont.)

Vocal

How you speak can be almost as important as what you say. All of your preparation can be wasted if your vocalization is not effective.

Pitch

- Conversational
- Natural

Pace

- Consider your audience
- Slow for important phrases

Volume

- Loud enough so everyone can hear
- Varied to heighten interest

Resonance

- Quality
- Energetic.

Pausing

- Conveys that you are relaxed and confident
 - Allows audience time to think
 - Signals a transition from one thought to another
 - Creates impact and emphasis
-

Lesson 13: Train-The-Trainer (Cont.)

Verbal

A good rule to follow when making a presentation is KISS (Keep It Short and Simple). Using simple words and phrases makes your meaning clear. Remember, people can process your words 3 times faster than you can speak so keeping key points short reduces the chance that your audience will take “side trips” during your presentation. Using rare words or inflated statements also marks you as a “show-off”.

Imagery-words your listeners can picture, such as:

- Bottleneck vs. problem
- Sticky situation vs. challenge
- Iron fisted vs. strong
- Hazardous vs. dangerous
- Delighted vs. happy

Pronouncing words correctly, such as:

- Accidentally
- Interesting
- Toward

Using proper grammar, such as:

- *Phenomenon* instead of phenomena
 - *Regardless* instead of irregardless
 - *Reason is* instead of reason is because
 - *Themselves* instead of theirselves
-

Lesson 13: Train-The-Trainer (Cont.)

Visual Image

Your voice never conveys your whole message. Nor does your choice of words. A critical part of your training success is your personal appearance; your posture, eye contact, facial expressions, head movements, gestures and attire.

Avoid Distractions

- Swaying or rocking
 - Pacing too much
 - Thumping or tapping
 - Staring at notes
 - Tugging your ear
 - Jingling keys or coins
 - Pointing fingers
 - Slouching
-

Attire

In any environment what you wear makes a difference. I am not suggesting a suit and tie is needed, however, I am suggesting that you look *professional*.

Attire

- Dress for your audience (their “level” plus one)
 - Be conservative
 - Aim for neat and tailored
-

Stress Reducers

Webster’s Dictionary defines fear as: A distressing emotion aroused by an impending pain, danger or evil; *or by the illusion of such*. According to some surveys, presenting before a group is a leading “fear creator”. No matter what nervous symptoms you experience before your audience, the secret is to *control* nervousness - not eliminate it.

Below are some actions you can take to help you control your nervousness.

Physical Stress Reducers	Psychological Stress Reducers
Deep breathing	Acceptance
Isometric exercises	Positive attitude
Moving and gesturing	Visualization
Eye contact	Worst/best case
Stress outlet, such as holding a marker, pointer, etc.	<i>Preparation/Practice</i>

Lesson 13: Train-The-Trainer (Cont.)

Quiz
True or False

1. T ___ F ___
Learning is purely voluntary.

 2. T ___ F ___
Regarding training, the physical environment is as important as course content.

 3. T ___ F ___
When you are delivering training, pausing conveys that you are relaxed and confident.

 4. T ___ F ___
Regarding training delivery, the 3V's are Vocal, Verbal and Vocabulary.
-

Lesson 13: Train-The-Trainer (Cont.)

How to Use the ISHMS for Shipyard Workers Facilitators Guide

The ISHMS Facilitator Guide provides the materials necessary for conducting this safety training class. It is a flexible guide for course preparation and delivery.

Organization

The Facilitator Guide consists of the following:

- Note-taking space with each block of text
 - Icons to help you quickly determine the Participant Manual content
 - A copy of the Participant Manual pages
 - A set of corresponding slides produced in PowerPoint
-

Left page

The left page is the Participant Manual.

Right Page

The right page is the Facilitator's Guide and contains:

- Note-taking space and directions for you. Use this space to customize the course to fit your personal delivery style.
- Icons to help you quickly understand if the block of information is to be read, is an exercise or quiz.
- Directions for asking key questions, stressing key points and completing exercises

The blocks of information on this page correspond directly to the participant manual on the left page.

Lesson 13: Train-The-Trainer (Cont.)

How to use

The right page (Facilitator Guide) corresponds to the left page (Participant Manual). To add additional information, use the note-taking space on the facilitator page. If, however, the participant page has notes you want to use while teaching, simply highlight the applicable text.

Facilitator pages are distinguished from participant pages by:

- Larger font.
 - The words Facilitator Guide in the upper right hand corner
 - Descriptive Icons
-

Instructional Tools

In preparation for class, use the following material checklist designed for this course.

- Participant Manuals (one for each participant)
 - Facilitator Guide
 - PowerPoint slides on CD
 - Projector and screen
 - Computer (PC or laptop)
 - Flipchart markers
 - Flip chart or white board
 - Pens or pencils
 - Notepaper
 - DVD
-

Lesson 13: Train-The-Trainer (Cont.)

Facilitator Icons

The following icons are used to assist the Facilitator:

Directions



This icon will direct you on what content to emphasize and key questions to ask.

Exercises



This icon will support you in the exercise objectives and how to structure the exercise.

Flipchart / White Board



This icon will let you know that it might be valuable to capture the information generated by the participants on a flipchart or white board.

Quiz



This icon will support you in structuring a quiz.

Slides

For each page of the Participant Manual there is a corresponding slide in PowerPoint (see PowerPoint CD). As you ask participants to move to the next page, you are to go to the next slide.

TRAINING FEEDBACK FORM

Course Title: *Implementing a SHMS for Shipyard Workers* *Date*

Instructor: *Thomas D. Bright*

Using the rating scale below, circle the number that you believe to be the most accurate.

Rating scale: 1 = Poor 5 = Excellent.

<u>Facilitator</u>	<u>Poor</u>				<u>Excellent</u>
Clarity of Presentation	1	2	3	4	5
Knowledge of Subject Matter	1	2	3	4	5
Encouraged Participation	1	2	3	4	5

<u>Workshop Materials</u> (workbook, slides, and video)	<u>Poor</u>				<u>Excellent</u>
Understandable	1	2	3	4	5
Well Organized	1	2	3	4	5
Professional Appearance	1	2	3	4	5

Individual Improvement

Before Training
Knowledge of a Safety and Health Management System before training

Circle a number below:
(Poor = 1, Excellent = 5)

1 2 3 4 5

After Training
Knowledge of a Safety and Health Management System after training

Circle a number below:
(Poor = 1, Excellent = 5)

1 2 3 4 5

Comments:
