High-Performance Manufacturing
Production Technician
Get Plugged In!
MSSC Online

- Category: Safety
  - Safety Organization
- Individual Work:

- Time: 2:00

- Task:
  - Logon and complete the assigned LAB
UNIT 2 A SAFE & PRODUCTIVE WORKPLACE

CHAPTER 4 SAFETY PRACTICES

SECTION 4.1 CREATING A SAFE WORKPLACE
- Regulatory Agencies
- Employer Responsibilities
- Health & Safety Controls
- Safety Orientation & Training
- Safety Committees & Representatives
- Safety Inspections
- Hazard Analysis
- Correcting Hazards
- Environmental Inspections
- Worker Involvement

SECTION 4.2 PRACTICING SAFETY
- Personal Protective Equipment
- Fire Safety
- Electrical Safety

SECTION 4.3 KEEPING THE WORKPLACE SAFE
- Workplace Precautions
- Hazardous Materials
- Hazard Communication
- Handling Hazardous Material
- Responding to Emergencies

CHAPTER 4 REVIEW & CERTIFICATION TEST PREP

"RIGHT TO KNOW" CENTER
MATERIAL SAFETY DATA SHEETS FOR HAZARDOUS MATERIALS USED IN THIS AREA
Apply It!
Pg. 94

- Category: Communication
  - Reading
- Process:
  - Individual
- Time: :00
- Task:
  - Read C pg. 94
  - Complete “apply it!”
  - Classroom Discussion
“..when does the process of creating a safe workplace end?..”

- Processes change
- Work spaces are rearranged
- Parts wear out
  - Each of these may create new hazards
- Governmental Regulations
- New Company Policies.
  - These also are part of the ongoing effort to...

Creating A Safe Workplace
Section 4.1
Occupational Safety & Health Administration
-Primary government agency; devoted to workplace safety.

National Institute for Occupational Safety & Health
-Studies causes of workplace injuries and illnesses.

Environmental Protection Agency
-Develops and enforces regulations protecting land, air, and water.

Regulatory Agencies
...when does the process of creating a safe workplace end?..

- Employers Responsibilities
- Employee Responsibilities
- Health & Safety Controls
  - Elimination or Substitution
  - Engineering controls
  - Warnings
  - Training and Administrative Controls
  - Personal Protective Equipment (PPE)

Creating A Safe Workplace:

continued
“..when does the process of creating a safe workplace end?..”

- Safety Orientation & Training
  - Risk of injury much greater for new workers
    - Less than one year 40% more likely to be injured
  - Plant tours are ideal to familiarize exit routes, evacuation routes and hazardous areas
Creating A Safe Workplace

• Employers should teach production workers..
  – Company first-air or first-response procedures
  – Emergency alarms and procedures
  – How to inspect work areas and report possible safety risks
  – Possible hazards in the workplace to help ensure personal safety as well as safety of others
  – Health and safety standards to ensure that quality problems are addressed correctly without impairing health and safety

..safety programs not only save Lives—they also save money.”
• **Category:** Safety Practices
  – Posting Worker Rights
  – Conducting Safety Orientation & Training

• **Process:**
  – Individual

• **Time:** :20

• **Task:**
  – Read both applications 4-1 and 4-2
  – Answer questions pg. 8 of 4-1
  – Class Discussion – “Production Challenge”
“..when does the process of creating a safe workplace end?..”

- **Safety Committees**
  - is a group of frontline workers and managers looking for ways to improve safety
  - Most important role is to respond to worker safety concerns...

- **Safety Representative**
  - Is a person who helps improve safety in the workplace.
  - They may address safety hazards alone or by working with others
  - Skilled in identifying unsafe conditions
  - Familiar with corrective action procedure
  - Conform to reporting processes
Get Up!

- **Subject:**
  - Safety Inspection
- **Process:**
  - Individual
- **Time:** 10
- **Task:**
  - Study the `PLAY.map` and identify all the Safety concerns. Utilize the "Safety Checklist" as a guide.
  - Class Discussion
Using Safety Inspection Checklists

A safety inspection checklist must be tailored to the industry and the individual workplace. Through experience, you can develop skill in preparing safety checklists. The following are examples of what you might find on a complete safety inspection checklist.

**First-Aid**
- First-aid supplies and equipment available at all times.
- Eyewash stations available and working properly.
- Emergency showers available and working properly.
- Certified first responders available.

**Personal Protective Equipment**
- Required personal protective equipment (PPE) provided and required.
- Training on proper use of PPE.
- Proper PPE worn.
- Respirators available and worn.

**Sanitation**
- Proper housekeeping.
- Cleanup supplies available (soap, towels).
- Hot or tepid water available.

**Storage**
- Storage properly stacked and secured.
- Chemicals stored properly.
- Clearance capacity posted for overhead storage.
- Aisles marked and kept clear.

**Walking Surfaces**
- All clean and dry.
- Adequate illumination.
- Slip-resistant mats in place.
- Wet floor signs in use.
- Aisles marked and kept clear.
- Stairways sturdy with adequate railing.
- Stairways kept clear and dry.

**Exits**
- Marked with easily seen signs.
- Directional exit signs.
- Free of obstructions.
- All exit doors labeled.

**Fire Protection**
- Fire hazards removed or guarded.
- Fire extinguishers available and checked.
- Emergency alarms operating properly.

**Ventilation**
- Mechanical ventilation provided as necessary.
- Ventilation adequate to remove air contaminants.
- Exhaust systems provide adequate ventilation.

**Machine Guards**
- Safety guards are not bypassed.
- Grinding wheels guarded.
- Flywheels guarded.
- Pulleys guarded.
- Belt drives guarded.
- Sprocket wheels and chains guarded.
- Saw blades guarded.
- Jointers guarded.
- Rotating shafts guarded.
- Fan blades guarded.

**Portable Power Tools**
- Portable power tools properly guarded.
- Portable power tools properly grounded.

**Electrical**
- Electrical wiring complies with National Electrical Code.
- Electrical equipment properly grounded.
- Electrical cords protected from damage.
- Extension cords not used as fixed wiring.
- Breakers properly labeled.

(continued on next page)
Hazard Communication
- Containers are properly labeled.
- MSDS for all chemicals.
- Proper HAZCOM training.

Hazardous Materials
- Compressed-gas cylinders labeled and stored properly.
- Flammables and combustibles stored properly.
- "No Smoking" signs in hazardous areas.

Workstations & Equipment
- Workstations clear of safety hazards.
- Manufacturer's instructions and rules followed.
- Equipment periodically inspected and records maintained.
- Trained and certified operators only.

Lockout/Tagout
- Proper procedures followed.
- Employees notified.
- Training provided.
- Hardware and tags available and used.
- Regular inspections.

Follow-Up
- Discuss corrective actions with supervisors and employees in a timely way.
- Report issues and problems effectively. Ensure that your recommendations for corrective action are clear, concise, and supported by data.
- Ensure that all data was reviewed prior to making recommendations.
- Recommend corrective actions for out-of-compliance conditions and unsafe conditions according to proper procedures and documentation.
- Recommend corrective actions for quality issues impacting the health or safety of workers according to proper procedures and documentation.
- Follow up on corrective actions recommended as a result of your inspection.
- File and store inspection documents according to standard company policy.
• Hazards Analysis
  – Alias; Job Safety Analysis (JSA)
  – Process used to reduce the risk of hazards to an acceptable level
    • Each step of a job is studied
    • Identify possible hazards
    • Corrective actions to reduce possible injuries.

• Correcting Hazards
  – Uncover hazards and find solutions to improve workplace safety
    • PPE
    • Add guards
    • Warning lights
    • Visual aids
    • Etc.

Creating A Safe Workplace
continued
• Environmental Inspections
  – Checking for anything that might cause air, ground, or water pollution
  – Involves many of the same techniques used in a safety inspection
  – Some inspections required by law

• Which Government agency oversees environmental concerns?

Creating A Safe Workplace

continued
Apply It!
Pg. 101

• **Category:** Leadership
  – Leading Others

• **Process:**
  – Individual

• **Time:** :05

• **Task:**
  – Read L pg. 101
  – Complete “apply it!”
  – Classroom Discussion
• Category: Safety Practices
  – Writing Accident, Incident & Near Miss Reports

• Process:
  – Individual

• Time: 10

• Task:
  – Read application 4-5
  – Fill out form based on an accident from your personal experience
  – Class Discussion – “Production Challenge”
**Accident Investigation Report**

**Instructions:** Complete this form as soon as possible after an accident that results in serious injury or illness.
(Optional: Use to investigate a minor injury or near miss that could have resulted in a serious injury or illness.)

This is a report of: □ Death □ Lost Time □ Dr. Visit Only □ First Aid Only □ Near Miss

Date of incident: This report is made by: □ Employee □ Supervisor □ Team □ Final Report

---

**Step 1: Injured employee (complete this part for each injured employee)**

Name: ____________________________  Sex: □ Male □ Female  Age: ________

Department: ____________________________  Job title at time of accident: ____________________________

Part of body affected: (shade all that apply) □ Head □ Upper arm □ Lower arm □ Upper leg □ Lower leg □ Hand □ Finger □ Toe □ Other: ____________________________

Nature of injury: (most serious one) □ Abrasion, scrapes □ Amputation □ Broken bone □ Bruise □ Burn (heat) □ Burn (chemical) □ Concussion (to the head) □ Crushing Injury □ Cut, laceration, puncture □ Hernia □ Illness □ Sprain, strain □ Damage to a body system: □ Nervous □ Respiratory □ Circulatory □ Other: ____________________________

This employee works: □ Regular full time □ Regular part time □ Seasonal □ Temporary □ Months with this employer: ________ □ Months doing this job: ________

---

**Step 2: Describe the accident**

Exact location of the accident: ____________________________  Exact time: ________

What part of employee’s workday? □ Entering or leaving work □ During meal period □ During break □ Doing normal work activities □ Working overtime □ Other

Names of witnesses (if any): ____________________________

Number of attachments: ________  Written witness statements: ________  Photographs: ________  Maps / drawings: ________

What personal protective equipment was being used (if any)? ____________________________

Describe step by step the events that led up to the injury. Include names of any machines, parts, objects, tools, materials and other important details.

Description continued on attached sheets: □
### Accident Investigation Report

**Step 3: Why did the accident happen?**

<table>
<thead>
<tr>
<th>Unsafe workplace conditions: (Check all that apply)</th>
<th>Unsafe acts: (Check all that apply)</th>
</tr>
</thead>
<tbody>
<tr>
<td>□ Inadequate guard</td>
<td>□ Operating without permission</td>
</tr>
<tr>
<td>□ Unguarded hazard</td>
<td>□ Operating at unsafe speed</td>
</tr>
<tr>
<td>□ Safety device is defective</td>
<td>□ Servicing equipment that has power to it</td>
</tr>
<tr>
<td>□ Tool or equipment defective</td>
<td>□ Making a safety device inoperative</td>
</tr>
<tr>
<td>□ Workstation layout is hazardous</td>
<td>□ Using defective equipment</td>
</tr>
<tr>
<td>□ Unsafe lighting</td>
<td>□ Using equipment in an unapproved way</td>
</tr>
<tr>
<td>□ Unsafe ventilation</td>
<td>□ Unsafe lifting by hand</td>
</tr>
<tr>
<td>□ Lack of needed personal protective equipment</td>
<td>□ Taking an unsafe position or posture</td>
</tr>
<tr>
<td>□ Lack of appropriate equipment / tools</td>
<td>□ Distraction, teasing, horseplay</td>
</tr>
<tr>
<td>□ Unsafe clothing</td>
<td>□ Failure to wear personal protective equipment</td>
</tr>
<tr>
<td>□ No training or insufficient training</td>
<td>□ Failure to use the available equipment / tools</td>
</tr>
<tr>
<td>□ Other:</td>
<td>□ Other:</td>
</tr>
</tbody>
</table>

Why did the unsafe conditions exist?

Why did the unsafe acts occur?

Is there a reward (such as "the job can be done more quickly", or "the product is less likely to be damaged") that may have encouraged the unsafe conditions or acts?  
   Yes  No

If yes, describe:

Were the unsafe acts or conditions reported prior to the accident?  
   Yes  No

Have there been similar accidents or near misses prior to the accident?  
   Yes  No

### Step 4: How can future accidents be prevented?

What changes do you suggest to prevent this accident/near miss from happening again?

- □ Stop this activity
- □ Guard the hazard
- □ Train the employee(s)
- □ Train the supervisor(s)
- □ Redesign task steps
- □ Redesign work station
- □ Write a new policy/rule
- □ Enforce existing policy
- □ Routinely inspect for the hazard
- □ Personal Protective Equipment
- □ Other:

What should be (or has been) done to carry out the suggestion(s) checked above?

### Step 5: Who completed and reviewed this form? (Please Print)

Written by: Title:

Department: Date:

Names of investigation team members:

Reviewed by: Title:

Date:
Knowledge Check!

• Category: Review
• Process: Individual
• Time: :00
• Questions:
  – What is OSHA’s role in the workplace?
  – What is one of the most important roles of a safety committee?
  – What can be done to reduce the risk of injury or accident from hazards in the workplace if the hazard cannot be eliminated?
  – What procedures must be followed in reporting safety or environmental accident?
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