Objectives

When trainees have completed this session, they should be able to do the following:

1. Describe the importance of safety, the causes of workplace accidents, and the process of hazard recognition and control.
   a. Define incidents and the significant costs associated with them.
   b. Identify the common causes of incidents and their related consequences.
   c. Describe the processes related to hazard recognition and control, including the Hazard Communication (HAZCOM) Standard and the provisions of a safety data sheet (SDS).
Section 1.1.0 Safety Incidents/Accidents 1 of 3

INCIDENT CATEGORIES

• **Near-miss**: An unplanned event or occurrence in which no one was injured and no damage to property occurred, but during which either could have happened. *Near-miss incidents* are warnings that should always be reported rather than overlooked or taken lightly.

• **Property damage**: An unplanned event that resulted in damage to tools, materials, or equipment, but no personal injuries.

• **Minor injuries**: Personnel may have received minor cuts, bruises, or strains, but the injured workers returned to full duty on their next regularly scheduled work shift.
Section 1.1.0 Safety Incidents/Accidents 2 of 3

- **Serious or disabling injuries**: Personnel received injuries that resulted in temporary or permanent disability. Included in this category would be lost-time incidents, restricted duty or restricted motion cases, and those that resulted in partial or total disability.

- **Fatalities**: Deaths resulting from unplanned incidents.
A safety culture is created when all the workers at the job site or in an organization see the value of a safe work environment and support it through their actions. Companies with strong safety cultures usually have the following characteristics, fewer at-risk behaviors, lower incident and accident rates, *less turnover*, higher productivity.
Safety is a **learning behavior and attitude**. It is a way of working that must be incorporated into the company as a culture.

**THE FATAL FOUR**

- **FALLS**: 34.6%
- **STRUCK BY**: 9.8%
- **CAUGHT IN**: 16%
- **ELECTRICAL**: 8.1%
- **OTHER**: 43%

*Source: US OSHA, 2013*
Section 1.2.0

• Learn to recognize these types of signs.
• Safety signs give general instructions and suggestions about safety measures.
• The background on these signs is white; most have a green panel with white letters.
CAUSES OF INCIDENTS

Failure to communicate

• You need to communicate with the people at the new job site to find out whether they do things the way you have learned to do them.

• Remember that different people, companies, and job sites do things in different ways.

At-risk work habits

• Carelessness
• Horseplay
• Delaying something that requiring immediate attention.
5. Whether an action is considered safe is often a matter of evaluating risk. **Risk** is a measure of the probability, consequences, and exposure related to an event.
Alcohol or drug abuse

• Costs the construction industry millions of dollars
• Lost time
• Lost productivity
• Creates a risk of injury for everyone on a job site
  • Many states have laws that prevent workers from collecting insurance benefits if they are injured under the influence of alcohol or illegal drugs.
• Many prescription and prescriptions over-the-counter can affect your ability to work safely.

Lack of skill

• Learn and practice new skills under supervision
• Never perform new tasks (electric machines, circular saws, grinders)
• Never operate power tools until you have been trained to use it.
Intentional acts
• Purposely causes property damage
• Control loss of itself
• An angry person can cause property damage
• Can create an incident or accident
• Terrorist attack (any direction, many ways)
• Pay attention

Unsafe acts
• No using Personal Protective equipment (PPE)
• Lifting improperly
• Operating equipment at improper speeds or without authority
• Using defective equipment

Rationalizing Risk
• Means ignoring safety warnings and practices.
• Examples, crossing barricades, not wearing gloves, removing hard hats, not using fall protection
Poor Housekeeping

• Keep work area clean
• Prevent incidents, slips, fires, explosions, and falling objects.
• Remove scrap materials
• Lumber with nails
• Organize tools and equipment in the proper location
• Walkways must be maintaining clear of materials

Management System Failure

The management system should be designed to prevent or correct the acts and conditions that can create safety hazards.

• Create safety policies and procedures in writing
• Review safety polices
• Enforce all safety policies
• Provide safety training
• Evaluate supplies, and equipment
3. An unsafe condition is a physical state that is different from the acceptable, normal, or correct condition found on the job site. **Unsafe condition** include poor lighting, excessive noise and inadequate guards for moving parts.
Section 1.3.0 – HAZCOM

Your HAZCOM Responsibilities

• Know where the SDSs are kept on the job site.
• Report any hazards you spot on the job site to your supervisor.
• Know the physical and health hazards of any hazardous materials on your job site and know and practice the precautions needed to protect yourself from these hazards.
• Know what to do in an emergency, including planned evacuation routes and locations of emergency phones.
• Know the location and content of your employer’s written hazard communication program.
Section 1.3.1 – Energy Release

**SOURCES OF ENERGY RELEASE**

Energy sources that can cause incident or accident, it is usually because there was an uncontrolled release of energy.

- **Mechanical**
- **Pneumatic;** air pressure
- **Hydraulic;** fluid under pressure
- **Electrical**
- **Chemical**
- **Thermal (heat or cold)** When you feel heat being given off from an object like fire. • Friction from two objects touching like rubbing your hands together.
- **Radioactive**
- **Gravitational**
- **Stored energy** example: battery
• The JSA process saved the worker from injury.
• The JSA can also be used as pre-planning tools.
  • Tools, materials, and equipment needs
  • Time for the job
• **Job Safety Analysis (JSA)** is one approach to hazard recognition. Once a hazard is identified, certain actions or procedures are recommended that will correct the hazard. (JSA) is the activity that consists of breaking a job into its component tasks and then analyzing each step.
Sections 1.3.3 and 1.3.4 – Incident Reporting

All on-the-job injuries or other incidents, no matter how minor, must be reported to your supervisor!

US employers with more than 10 employees are required to maintain a log of significant work-related injuries and illnesses using specific forms and documents.
Section 1.3.5 – Safety Data Sheets

**SDS/MSDS**

**SDS:** Safety Data Sheets

**MSDS:** Material safety data sheet

- SDSs are fact sheets prepared by the chemical manufacturer or importer.

- Each product used on a construction site must have an SDS or an MSDS available for immediate use.

- The most important things to look for are the specific hazards, personal protection requirements, handling procedures, and first aid information.
Combustible
Capable of easily igniting and rapidly burning; used to describe a fuel with a flash point at or above 100°F (38°C).

Competent person
A person who is capable of identifying existing and predictable hazards in the surroundings or working conditions that are unsanitary, hazardous, or dangerous to employees, and who has authorization to take prompt corrective measures to eliminate them.
Confined space
A work area large enough for a person to work, but arranged in such a way that an employee must physically enter the space to perform work. A confined space has a limited or restricted means of entry and exit. It is not designed for continuous work. Tanks, vessels, silos, pits, vaults, and hoppers are examples of confined spaces. See also permit-required confined space.

Flammable
Capable of easily igniting and rapidly burning; used to describe a fuel with a flash point below 100°F (38°C).
Wrap Up – Trade Terms (3 of 6)

Ground fault
Incidental grounding of a conducting electrical wire.

Hazard Communication Standard (HAZCOM)
The Occupational Safety and Health Administration standard that requires contractors to educate employees about hazardous chemicals on the job site and how to work with them safely.

Hydraulic
Powered by fluid under pressure.
Wrap Up – Trade Terms (4 of 6)

Management system
The organization of a company’s management, including reporting procedures, supervisory responsibility, and administration.

Occupational Safety and Health Administration (OSHA)
An agency of the US Department of Labor. Also refers to the Occupational Safety and Health Act of 1970, a law that applies to more than more than 111 million workers and 7 million job sites in the US.

Personal protective equipment (PPE)
Equipment or clothing designed to prevent or reduce injuries.
Wrap Up – Trade Terms (5 of 6)

Pneumatic
Powered by air pressure, such as a pneumatic tool.

Respirator
A device that provides clean, filtered air for breathing, no matter what is in the surrounding air.

Safety culture
The culture created when the whole company sees the value of a safe work environment.
Safety data sheet (SDS)
A document that must accompany any hazardous substance. The SDS identifies the substance and gives the exposure limits, the physical and chemical characteristics, the kind of hazard it presents, precautions for safe handling and use, and specific control measures.

Trench
A narrow excavation made below the surface of the ground that is generally deeper than it is wide, with a maximum width of 15 feet (4.6 m). Also see excavation.
Next Session…

ELEVATED WORK AND FALL PROTECTION

Read Sections 2.0.0 through 2.4.3. Complete the 1.0.0 and 2.0.0 Section Reviews.