Looking Back and Forward

Think about what has happened during the past year. Can you identify any situations where improved work practices or procedures could increase health and safety, both at work and at home? In this exercise, you will think back, and use that information to identify ways to avoid similar events in the future.

Objectives

When you have completed this review, you will be better able to:

➢ Identify actions/activities that could be done more safely

➢ Identify hazard controls for these actions/activities

Observations from the past year

Question: Have you or anyone within your organization reviewed accident reports or reports of 'near misses' in your workplace? Annual reviews are used in many workplaces to evaluate whether changes are needed in current hazard controls. But an accident or near miss does not need to occur to identify what <u>could have been</u> a near miss, or where work practices could be done more consistently with the Standard Operating Procedure (SOP).

For example, you get an Air Purifying Respirator from the tool crib and find one strap is disconnected from the face piece. The crib clerk gets another one in the same brand and size, and you continue to work. In this case, there is likely no report but the step in the SOP to inspect prior to storage did not identify a need for repair.

A refresher program provides time to think about the events of the past year and identify other areas where training can be put into practice to increase health and safety.

Exercise 1 – Year in Review

Think about the past year at work and at home. Were there accidents? Were there near misses? What activity did you and coworkers observe that could have been done more safely? <u>Complete the Worksheet provided</u>. Share your observations.

Types of Hazard Control

Hierarchy of Controls

It is not possible to eliminate all hazards from sites that work with hazardous materials. However, a range of controls can be employed.

The Hierarchy of Controls refers to the preferred methods of hazard control. NIOSH defines five steps in their Hierarchy of Controls. They are arranged beginning with the most effective controls and proceeding to the least effective. See the illustration below.

Source: https://www.cdc.gov/niosh/topics/hierarchy/default.html
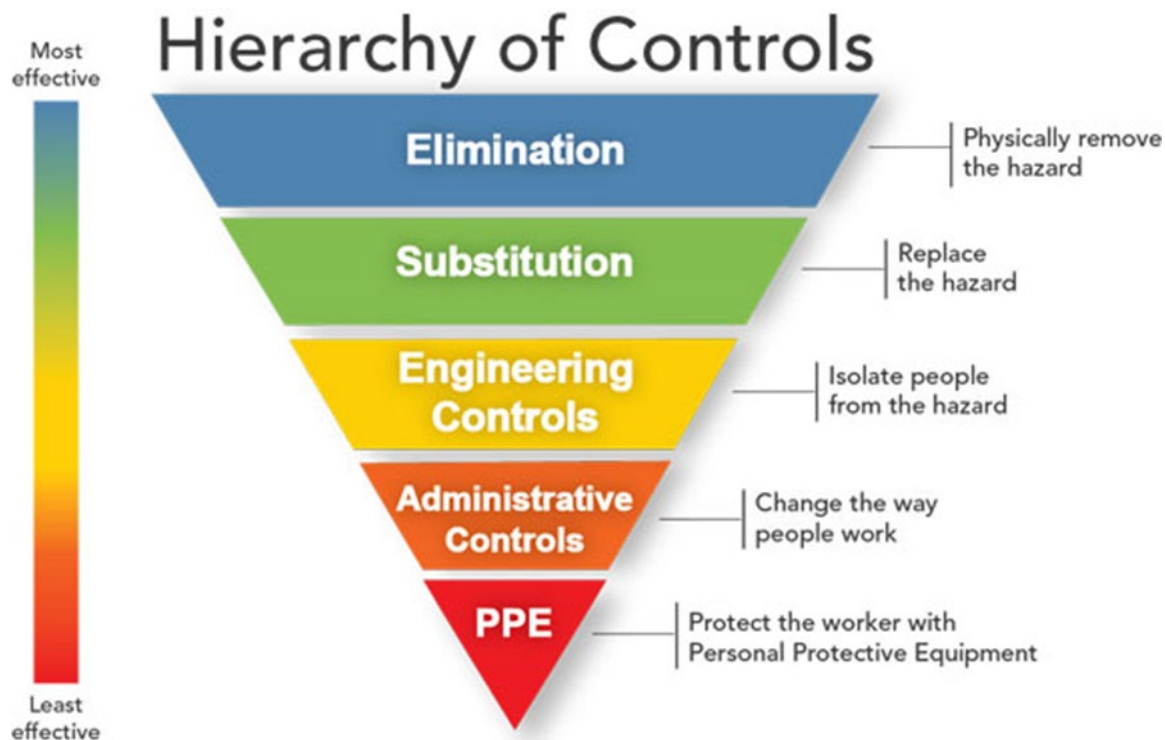
Elimination – Physically remove the hazard

Example: Disconnecting power at an abandon building (eliminating electrical hazards).

Substitution – Replace the hazard with something less hazardous

Examples: Using a 'green' pesticide made from household chemicals is one example. Using soap and water instead of a solvent-based liquid for hand cleaning is another example of substitution.

Engineering Controls - Modify the conditions using technology

Examples: An air-conditioned cab on a piece of earth-moving equipment can reduce employee heat and noise exposure. A remote drum-puncturing rig and shielding of radiation or explosion exposures can reduce the level of exposure to the worker(s), minimize the release of the contaminant or hazard at the source, and reduce the need

for or level of decontamination. Sending a robot to collect soil samples potentially contaminated with radioactive sludge is a modification (compared with sending a person).

Ventilation is a commonly used engineering control. When use of confined-space entry is the only way of accomplishing a task, a ventilation fan is used to provide fresh breathing air inside the confined space, helping to reduce the risk. Removing solvent vapors with *intrinsically safe,* mechanical exhaust at a transfer point of liquids containing a toxic solvent is another example of ventilation.

Administrative Controls – Control hazards utilizing policies and procedures - SOG's & SOP's

Examples: Industrial hygiene monitoring programs, medical surveillance programs, confined-space entry and hot-work permits and policies, and lock-out procedures. Other examples are work plans limiting the duration of exposure (e.g., to noise and radiation), developing a written plan describing the maintenance of protective clothing, and implementing specific work practices which reduce or prevent exposure. Adding a sign-off *and reviewed by competent person* during excavation to assure that trenching has been done according to guidelines is a change in the work practice. When confined-space entry activities are changed to use work practices that do not require personnel to enter the space, the procedure has been modified.

All these controls are examples of a universal Standard Operating Guideline (SOG), the term used for generic procedures. When procedures are plant- or company-specific, the control is referred to as a Standard Operating Procedure (SOP). All potential or identified hazards at a site and methods to control them **must** be described in writing. These topics are covered in the on-site training and are included in the safety and health program.

Personal Protective Equipment

When the above controls are not possible, personal protective equipment is needed. Example: Level B is required to protect from an individual from solvent-contaminated soil during drum staging. It provides a physically protective barrier, to protect its wearer from physical or chemical hazard.

Exercise 2 – Identify Controls to Reduce Risk

Pick one or more potential hazards identified in the previous exercise. Discuss in small groups what controls could be used to reduce risk. Did you identify Engineering or Administrative controls or a combination?

NOTE: if no hazard was identified, select from this listing:

Examples where improvement would reduce risk

Housekeeping

Safety suggestion tracking

First aid supplies replenished

Respirators cleaned after each use

Emergency alerting practiced

Increase time to plan before starting tasks

Inform everyone of whistleblower policies

Tool inspection and repair tracking

Segregate and mark contaminated protective equipment

Use of respirators with facial hair

Monthly PPE checks

Team Building training

Update of chemicals used

Semi-annual review of ERP

Someone in the small group should be prepared to report the findings to the other participants.

Closing

Did you:

➢ Identify actions/activities that could be done more safely
➢ Identify hazard controls for these actions/activities

Based on this exercise, what takeaways do you have as you go back to work?

Please ask any remaining questions