29CFR 1926.20(b)-Accident Reduction, **29CFR 1926.21-** Safety Training & Education

General Safety Program

Preparation

1. Read Applicable Background information and related Company Policy Chapter.
2. Make _____ Copies of this Lesson Plan for Personnel
3. Make Transparency, procure transparency pens, etc.
4. Coffee, tea, snacks

Other:

Material

1.
2.
3.

Objective

By the end of this session, personnel shall be able to discuss:

- Their Safety Responsibilities and Rights as a Worker
- General Shop Safety Procedures
- What Personal Protective Equipment is and what is to be used by the employee
- Exit and Exit Marking
- Housekeeping procedures
- Material Storage Procedures

Background

The Company's goal is to ensure that the Company is a safe and healthful place to work. The Company and its employees are required to comply with federal and state safety and health standards. Employees must have the knowledge, skills, and abilities to carry out their work safely and efficiently. In the past there was no guarantee that you would be told of the chemical and physical hazards you might encounter while doing your job. That is why the OSHA standards pertaining to work place hazardous chemicals and hazardous operations are so important. In order to ensure that you are working in a safe environment, there are responsibilities that must be fulfilled by the Company and its employees.

Notes

The Company, being the employer, is responsible for:

- Complying with occupational safety and health standards and regulations.
- Developing safety and health programs.
- Keeping records of all monitoring data.
- Correcting safety and health hazards.
- Informing workers of their rights and responsibilities related to occupational safety and health.

Lesson

Employee Responsibilities

You, as a worker of the Company, are responsible for:

- Observing and complying with safety and health standards and regulations that apply to your work.
- Reporting hazardous conditions promptly.
- Responding to warning signals that may be activated in the event of an emergency situation.
- Reporting emergencies using proper procedures.
- Participating in the safety improvement process at the Company.

Because you are a worker, OSHA gives you the following rights:

- Know what hazards and hazardous chemicals are present in your workplace.
- Receive all important information pertaining to hazardous chemicals in the work place.
- Know what to do in the case of an emergency such as a hazardous material spill, fire, hurricane, flood, etc.
- See the records of work place monitoring.
- Receive prompt notification if you have been exposed to hazardous materials or harmful physical agents in excess of permissible limits.

Notes

General Shop and Work Area Safety

Notes

A. Shop Procedures:

1. All portable and fixed powered shop machines and tools will be equipped with approved guarding devices. Guards are to be in place while using the machine. Equipment must also be properly electrically grounded before use.
2. Proper personal protective equipment will be provided (safety glasses, goggles, and shields) and used during grinding or other work that may produce flying particles (e.g. drill press, power saws, etc.). Company approved dust respirators will be used for work that produces airborne dust particles. Eye protection is required during electrical or electronic hardware repair, installation and/or open front operation.
3. Approved face, eye and body protection will be used during any burning or welding operation. Also, sufficient shielding that provides protection to others in the immediate area will be used.
4. No flammable materials (paints, solvents, chemicals, etc.) will be stored within the immediate area of any burning or welding operation. Flammable materials must be stored in OSHA and Company approved cabinets.
5. Any employee using portable fixed tools (drill press, jig or band saw, etc.) must not wear loose clothing. Anyone with long hair must tie back the hair or wear acceptable hair protection while operating equipment. All stock must be clamped down (attempting to hold stock with hands will not be permitted).
6. Before any employee performs service or maintenance on a machine or equipment where the unexpected energizing, start up or release of stored energy could occur and cause injury, the machine or equipment shall be made safe. This will be accomplished by locking out and tagging out energy isolating devices, and otherwise disabling the machines or equipment. (see Lockout/Tagout Policy).
7. Clean-up after using powered equipment or hand tools must be done immediately following use of the power tool.
8. Before any work is started in an area posted with a "Radioactive Materials" label, the supervisor or the Safety and Health Manager will be contacted for instructions so that the work may be safely performed.
9. Before any work is started in an area designated as "Restricted" (e.g. high hazard, carcinogens, etc.,) the area must be inspected by the Safety and Health Manager and permission to proceed given to the supervisor.

A. Shop Procedures: (continued)

10. Before any work is started in any laboratory area, a request will be made to the Laboratory Supervisor, principal investigator and/or Safety and Health Manager to ensure that there will be no danger from hazardous materials in the immediate area of work.
11. All burning or welding operations outside the shops area requires a Hot Work permit from the Safety and Health Manager.
12. Good housekeeping will be maintained in the shop area. Material will be stored in such a manner that there is no danger from sliding, falling or presenting a hazard by striking against or cutting. Scrap stock must be cleaned from floor and work benches following each job or at the end of each day.

Personal Protective Equipment

Personal protective equipment (PPE) is not a substitute for engineering controls or feasible work or administrative procedures. While these controls are being implemented, or if it has been determined that control methods are not feasible, personal protective equipment is required whenever there are hazards that can do bodily harm through absorption, inhalation, or physical contact. This equipment includes respiratory and hearing protective devices, special clothing, and protective devices for the eyes, face, head, and extremities. All PPE shall be of a safe design and constructed for the work to be performed and shall be maintained in a sanitary and reliable condition.

1. Eye Protection

Eye protection is required when there is a possibility of injury from chemicals or flying particles. Examples of operation requiring the use of eye protection include, but are not limited to:

- Chipping, grinding, and impact drilling.
- Breaking concrete, brick, and plaster.
- Welding or helping in welding of any type.
- Cleaning with compressed air.
- Tinning or soldering lugs or large joints.
- Riveting, grinding, or burning metals.
- Handling chemicals, acids, or caustics.

Notes

2. Face shields shall be thoroughly washed with soap and water before being worn by another person.

3. Hearing Protection

Appropriate hearing protection shall be used where employees are in designated hazardous noise areas with operating noise sources, or using tools or equipment which are labeled as hazardous noise producers. The Office of Health and Safety shall be contacted for noise level surveys and guidance on the type of hearing protection required.

4. Hand Protection

a. Rubber protective gloves shall be worn by personnel working in battery shops or where acids, alkalies, organic solvents, and other harmful chemicals are handled.

b. Electrical worker's gloves are designed and shall be used to insulate electrical workers from shock, burns, and other electrical hazards. These gloves shall NOT be the only protection provided and will never be used with voltages higher than the insulation rating of the gloves.

c. Multi-use gloves shall be worn to protect the hands from injuries caused by handling sharp or jagged objects, wood, or similar hazard-producing materials. These gloves are usually made of cloth material with chrome leather palms and fingers or synthetic coating. All-leather gloves are also acceptable.

5. Foot Protection

Non-skid shoes shall be worn where floors may be wet or greasy. Where there is reasonable probability of foot or toe injury from impact and compression forces, safety footwear shall be worn.

6. Respiratory Protection

There are various airborne hazards, e.g., organic vapors, fumes, particulates, etc., that personnel may encounter and respiratory protection may be required. The Safety and Health Manager shall be consulted for guidance on the type of protection required.

7. Head Protection

Hard hats shall be worn by all personnel working below other workers and in areas where sharp projections or other head hazards exist.

Notes

8. Body Protection

Natural or synthetic rubber or acid-resisting rubberized cloth aprons shall be worn by personnel handling irritating or corrosive substances. Aprons shall normally be worn with acid sleeves and gloves for greater body protection against skin injuries.

9. Insulated Matting

Insulating matting shall be used by workers for additional resistance to shock where potential shock hazards exist, such as:

•Areas where floor resistance is lowered due to dampness.
•Areas where high voltages (above 600 bolts) may be encountered.
•Areas with electrical repair or test benches.

10.Other

a. Shop supervisors shall ensure that shop personnel use the protective clothing and equipment that will protect them from hazards of the work they perform. It is the responsibility of workers to keep their PPE in a clean, sanitary state of repair and use the equipment when required.

b. Workers shall keep their hands and face clean, change clothes when they are contaminated with solvents, lubricants, or fuels, and keep their hands and soiled objects out of their mouth. No food or drink shall be brought into or consumed in areas exposed to toxic materials, chemicals, or shop contaminants. Workers shall wash their hands before eating or smoking after exposure to any contaminant.

c. Workers shall not wear rings, earrings, bracelets, wristwatches, or necklaces in the vicinity of operating machinery and power tools. Additionally, long full beards, unrestrained long hair, and loose clothing can become caught in tools or machinery and cause serious personal injury. Highly combustible garments or coveralls made of material such as nylon shall not be worn in or around high temperature equipment or operations such as boiler operations, welding, and any other work with open flame devices.

Notes

Exits and Exit Markings

1.Every exit shall have "EXIT" in plain legible letters not less than 6 inches high with the strokes of the letters not less than three-quarters of an inch wide.

2.Doors, passageways, or stairways which are neither exits nor ways to an exit (but may be mistaken for an exit) shall be clearly marked "NOT AN EXIT" or by a sign indicating their actual use, for example: "STORAGE ROOM" or "BASEMENT."

3.When the direction to the nearest exit may not be apparent to an occupant, an exit sign with an arrow indicating direction shall be used.

4.Exit access shall be arranged so it is unnecessary to travel toward any area of high hazard potential in order to reach the nearest exit (unless the path of travel is effectively shielded by suitable partitions or other physical barriers).

5.Exit signs shall be clearly visible from all directions of egress and shall not be obstructed at any time. If occupancy is permitted at night, or if normal lighting levels are reduced at times during working hours, exit signs shall be suitably illuminated by a reliable light source.

6.A door from a room to an exit or to a way of exit access will be the side-hinged swinging type. It will swing out in the direction of travel if 50 or more persons occupy the room or the exit is from an area of high hazard potential.

7.Areas around exit doors and passageways shall be free of obstructions. The exit route shall lead to a public way. No lock fastening device shall be used to prevent escape from inside the building.

8.Where occupants may be endangered by the blocking of any single exit due to fire or smoke, there shall be at least two means of exit remote from each other.

9.Exits, exterior steps, and ramps shall be adequately lighted to prevent mishaps. Separate lighting will not be required if street or other permanent lighting gives at least one foot-candle of illumination on the exit, steps, or ramp.

Notes

Housekeeping

Notes

Good housekeeping shall be maintained in all shops, yards, buildings, and mobile equipment. Supervisors are responsible for good housekeeping in or around the work they are supervising. As a minimum, the following requirements shall be adhered to:

1.Material shall not be placed where anyone might stumble over it, where it might fall on someone, or on or against any support unless the support can withstand the additional weight.

2.Aisles and passageways shall be kept clear of tripping hazards.

3.Nails shall be removed from loose lumber or the points turned down.

4.Ice shall be removed from all walkways and work areas where it may create a hazard or interfere with work to be done. If ice cannot be removed readily, sand or other approved materials shall be applied.

5.Trash and other waste materials shall be kept in approved receptacles. Trash shall not be allowed to accumulate and shall be removed and disposed of as soon as practicable, at least once per shift (or more often if needed).

6.Disconnect switches, distribution panels, or alarm supply boxes shall not be blocked by any obstruction that may prevent ready access.

7.Machinery and equipment shall be kept clean of excess grease and oil and (operating conditions permitting) free of excessive dust. Pressure gauges and visual displays shall be kept clean, visible, and serviceable at all times. Drip pans and wheeled or stationary containers shall be cleaned and emptied at the end of each shift.

Material Storage

All unnecessary accumulation of materials and supplies in the shop area shall be avoided. The presence of unnecessary material in the shop could cause such incidents as tripping, falling, or slipping. This could be especially hazardous around equipment that is in operation. The only material in the shop area shall be that actually in work. The only place that materials should accumulate in quantity are in storerooms and material holding areas.

1.The storage of materials shall not, of itself, create a hazard. Materials stored in tiers shall be stacked, strapped, blocked or interlocked, and limited in height so they are stable and secure against sliding or collapse. Storage racks shall have sufficient capacity to bear the loads imposed on them.

2.Stored materials shall not obstruct fire extinguishers, alarm boxes, sprinkler system controls, electrical switch boxes, machine operations, emergency lighting, first aid or emergency equipment, or exits.

3.Heavy materials and equipment should be stored low and close to the ground or floor to reduce the possibility of injury during handling.

4.All passageways and storerooms shall be maintained clean, unobstructed, dry, and in sanitary condition. Spills will be promptly removed.

5.Where mechanical handling equipment, such as lift trucks are used, safety clearance shall be provided for aisles at loading docks, through doorways, and wherever turns or passages must be made. No obstructions that could create a hazard are permitted in aisles.

Closure

According to the National Safety Council, workers are injured from slips, trips, and falls more than any other occupational injury. These can be usually be avoided if proper housekeeping procedures are used. Workers usually end up tripping on a piece of equipment, or tool that they themselves forgot to put away. One way to control hazards is through good housekeeping and common sense. The concept includes picking up, wiping up, and cleaning up. It includes removal of scrap and waste. It includes the adage "having a place for everything and putting everything in its place". Sometimes housekeeping is delegated to janitorial services, but everyone should share in the responsibility of cleaning up.

What questions do you have?

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