

# **SAFETY MEETING & TRAINING MANUAL**

**ONE YEAR OF MONTHLY  
MEETING AGENDAS**



# **SAFETY MEETING & TRAINING MANUAL**

**ONE YEAR OF MONTHLY  
MEETING AGENDAS**

SCHUPP CONSULTING  
GRAIN INDUSTRY SPECIALIST IN SAFETY AND HEALTH

# Introduction

The purpose of *One Year of Safety Meetings and Training Guidelines* is to aid the employer in dealing with the most fundamental ingredient of any human loss prevention program; employee training.

The goal is threefold: (1) To provide a pre-designed agenda for twelve safety meetings; (2) To provide specific safety and health training information and presentation guidelines; (3) To improve the facility position with regard to the compliance requirements of the Occupational Safety and Health Administration (OSHA).

Copyright 1996 by  
Schupp Consulting and GRAIN JOURNAL

All rights reserved

No portion of this program may be reproduced or transmitted in any form without prior written permission from Schupp Consulting or GRAIN JOURNAL

# Meeting Preparation and Presentation

Listed below are several suggestions to aid in conducting meaningful and effective safety meetings and employee training. Thoughtful preparation and attention to such details as meeting room comfort, a topical agenda, and familiarity with the subject training material will go a long way toward the implementation and ongoing administration of a safety program that does what safety programs are supposed to do; i.e., reduce the risk of serious injury to members of the workforce; reduce the risk of serious damage to the facility; and, to improve the workplace with regard to the compliance requirements of the Occupational Safety and Health Administration (OSHA).

- Set a date for the meeting and stick to it—don't allow other plant priorities to detract from the importance of the safety program.
- Select the most comfortable meeting room available. Pay particular attention to room temperature, light, and seating.
- Don't allow the meeting to be interrupted by other business, such as telephone calls, etc.
- Post the agenda prior to the meeting so that attendees can be prepared to participate.
- If audio/visual equipment is to be used, be sure it is in good working order.
- Encourage employee participation, but stick to the agenda and keep the discussions on track.
- Review the training material before the meeting and strive for a competent, organized presentation. Be prepared to answer questions.
- Provide attendees with copies of any educational material to be discussed; i.e., procedures, MSDS's etc.

# Sample Meeting Agenda

Date \_\_\_\_\_

\_\_\_\_\_  
Company name

\_\_\_\_\_  
Company address

## Attendees:

|       |       |
|-------|-------|
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |

### 1. Review of previous months LTA's and Medical Accidents

A thorough review of all LTA's and medical accidents (treated by a physician) that occurred during the past month is vital to the success of any safety program. The review should include at least the following:

- A discussion of the underlying causes of the accident(s);
- Identification and discussion of any contributing factors, such as inclement weather, improper use of PPE, inadequate training, etc;
- Identify and document the necessary corrective action; and
- Assign of responsibility for the completion of correction action.

### 2. New safety recommendations.

Enter new safety recommendations here and assign corrective action by priority. The assignment of corrective action should be documented in some fashion, such as a work order.

### 3. Safety recommendations completed.

Confirm completed safety recommendations here. Be sure that previous recommendations that have not been completed are carried forward.

### 4. Special projects

Document the assignment of special projects here. Special projects should include, but are not limited to, such activities as first aid & CPR certification; the required monthly inspection of emergency respirators; periodic portable ladder inspections; annual emergency evacuation drill; inspections of bin hoist equipment, safety harnesses and lanyards; etc. Be sure that special projects not completed since the previous meeting are carried forward.

### 5. Training.

Safety meetings present an excellent opportunity for conducting required employee training and a training outline is provided with each of the twelve meeting agendas.

### 6. Meeting adjourned.

# 1st Month Meeting Agenda

Date\_\_\_\_\_

## Attendees:

|       |       |
|-------|-------|
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |

### 1. Review of previous months LTA's and Medical Accidents:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

### 2. New safety recommendations:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

### 3. Safety recommendations completed:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

### 4. Special projects

First Aid & CPR certification for at least one person on each shift.

(Responsible person:\_\_\_\_\_).

Monthly inspection of emergency respirators. (See Appendix A.)

(Responsible person:\_\_\_\_\_).

### 5. Hazard Communication training. (See pages 1-2, 1-3).

### 6. Meeting adjourned

# Hazard Communication Training Guidelines

## Purpose of the hazard communication standard

The purpose of the standard is to reduce the incidence of chemical source illness.

## Employee Information

Inform employees that 29CFR 1910.200, Hazard Communication, requires employers to accomplish the following:

- (a) Identify and list all hazardous chemicals in the workplace;
- (b) Obtain an MSDS for each hazardous chemical present in the workplace;
- (c) Develop and implement a written hazard communication program that includes a system to ensure that all hazardous chemicals in the workplace are properly labeled, MSDS's, and employee training based on the list of hazardous chemicals, appropriate MSDS's and label information; and
- (d) Communicate hazard information to employees through label information and MSDS's by way of formal training programs.

Inform employees of the location and availability of the written hazard communication program, the list of hazardous chemicals, and the required MSDS's.

## Training Guidelines

Discuss operations in any work area where hazardous chemicals are present or being handled. Examples of such areas are the bin deck where fumigation chemicals are being used, or the hazardous chemical storage area in a warehouse. Furnish each attendee with a copy of the appropriate MSDS(s) and be sure that the discussion includes at least the following:

- (a) Methods and observations that may be used to detect the presence or release of a hazardous chemical in the work area. Section 111 of the MSDS-Physical/Chemical Characteristics supplies this information;
- (b) The physical and health hazards of the chemicals in the work area. Section IV of the MSDS-Fire and Explosion Hazard Data, Section V-Reactivity Data, and Section VI-Health Hazard Data Supplies this information.

- (c) The measures employees can take to protect themselves from these hazards, including information on work practices, emergency procedures and personal protective equipment required by the employer. Section VII of the MSDS-Precautions for Safe Handling and Use and Section VIII-Control Measures supplies this information.

Employee instructions in labeling requirements must include at least the following:

Some member of management or the workforce should be given the responsibility for ensuring that all inbound containers of hazardous chemicals are properly labeled.

Exception: Such containers do not require labeling provided the chemicals are for immediate use and the container remains in the possession of the employee who performed the transfer.

- (a) Inbound (entering the facility) containers must be inspected to ensure that each container of hazardous chemicals is properly and legibly labeled. Be sure that the responsibility for meeting this requirement is clearly defined.
- (b) Emphasize the importance of reading labels and of following the directions for safe handling.
- (c) If hazardous chemicals are transferred from the inbound container to other containers, instruct employees that such containers must be labeled, marked, or tagged in a manner that identifies the chemical and the chemical hazard.
- (d) In lieu of labels, process sheets, batch tickets, standard operating procedures, or other written materials may be used on stationary process equipment if they contain the same information as a label and are readily available to employees in the work area or station.

## Appendix A

### Inspection Procedures for Emergency Respirators

The self-contained breathing apparatus (SCBA) is admirably suited to serve as an emergency respirator as it provides complete respiratory protection against toxic gases and oxygen deficiency. The wearer is independent of the surrounding atmosphere because he or she is breathing with a system that is portable and, worn properly, admits no outside air.

- Check the facepiece for dirt, pliability of rubber, deterioration, and cracks, tears, or holes.
- Check straps for breaks, tears, loss of elasticity, broken attachment snaps and buckles and proper tightness.
- Check the integrity of the breathing hose, air or oxygen pressure for the cylinder, and the regulator harness assembly.
- Ensure that the regulator and warning devices (end-of-service alarm) functions properly.

**Note:** Emergency use respirators should be stored where they are easily accessible and their location clearly marked.

# 2nd Month Meeting Agenda

\_\_\_\_\_ Date \_\_\_\_\_

## Attendees:

|       |       |
|-------|-------|
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |

### 1. Review of previous months LTA's and Medical Accidents:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

### 2. New safety recommendations:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

### 3. Safety recommendations completed:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

### 4. Special projects

Monthly inspection of emergency respirators. (Responsible person:\_\_\_\_\_).

Safety inspection of portable ladders: (See Appendix B).  
(Responsible person:\_\_\_\_\_).

### 5. Lockout/Tagout training. (See pages 2-2, 2-3 and 2-4).

### 6. Meeting adjourned

## Lockout/Tagout Training Guidelines

**Note:** It is recommended that the trainer review the standard for The Control of Hazardous Energy (Lockout/Tagout), 29CFR 1910.147, before conducting the training below.

Reaffirm the company lockout/tagout policy.

Inform employees that the purpose of lockout/tagout is to disable machines or equipment to prevent an unexpected energization, start-up or release of energy in order to prevent injury to employees.

Inform employees that lockout/tagout applies to the control of energy during servicing and/or maintenance of machines and equipment when there is an identifiable potential for an unexpected startup or release of stored energy that could cause injury.

Inform employees that the lockout/tagout procedures below must be followed, in sequence, without exception:

- (1) All Affected Employees are to be notified that a lockout/tagout procedure is to be used and the reason.
- (2) Shut down the machine/equipment by putting the "On/Off" button or switch in the "Off" position.
- (3) Put the appropriate disconnect in the "Off" position and apply a designated lockout device in such a manner as to secure the disconnect in that position. Affix a designated tagout device at the same point where the lockout is located.
- (4) Ensure that all potentially hazardous stored or residual energy is relieved, disconnected, restrained or otherwise rendered safe.

Management should designate a person or persons who will be responsible for the notification. Notification may be either written or by word of mouth, or both.

An "Affected Employee" is one whose job requires operating or using a machine/equipment on which servicing or maintenance is being performed under lockout/tagout.

Locks and tags used for lockout/tagout must be singularly identified and may be used for no purpose other than lockout/tagout. Identification of locks may be by either shape, color, or size, or by any combination of the three. Tagout devices must be standardized as to print and format.

Stored and/or residual energy includes such energy in springs, elevated machine members rotating flywheels, hydraulic systems, and air, gas, steam, or water pressure.

- (5) After ensuring that no personnel are exposed, operate the normal controls to make certain that the machine/equipment will not start up.
- (6) Perform the servicing and/or maintenance.
- (7) After the servicing/maintenance has been completed, clear away all tools, replace any guards that have been removed and ensure that all employees are in the clear.
- (8) Remove the lockout/tagout devices and inform all Affected Employees of the removal
- (9) Activate the normal startup control(s) to restore energy to the machine/equipment.

### **Procedures for Testing and/or Positioning of Machines/Equipment**

- (1) Clear the machine/equipment of tools and personnel.
- (2) Remove Affected Employees from the testing/positioning area.
- (3) Remove the lockout/tagout devices.
- (4) Energize and test and/or position the machine/equipment.
- (5) Deenergize and reapply lockout/tagout devices to continue the servicing/maintenance.

### **Procedures for Group Lockout/Tagout**

An "Authorized Employee" is one who is trained and qualified to perform lockout/tagout and is authorized by the company to use the required procedures. Note: OSHA requires that only Authorized Employees be permitted to use the lockout/tagout procedures.

- Note:** The primary responsibility for the safety of a set number of employees is vested in the "Authorized Employee".
- (1) Ascertain the exposure status of all individual group members.

- (2) Coordinate the affected workforce, i.e., shift, crew, craft, or department, for overall effective control and protection.
- (3) Each Authorized Employee shall affix their own personal tagout device to the group lockout device.

### Procedures for Shift or Personnel Changes

**Note:** The Authorized Employee shall be responsible for the continuity of lockout/tagout protection between shift and/or personnel changes. Such responsibilities includes the following:

- (1) Ensure an orderly transfer of lockout/tagout device protection between the off-going and the on-coming employees; and
- (2) Conduct a review of the status of the servicing/maintenance with the off-going or on-coming Authorized Employee.

Emphasize that good communications between the off-going and the on-coming Authorized Employee is an essential ingredient in a lockout/tagout program.

## **Appendix B**

### **Care and Inspection of Portable Ladders**

29CFR 1910.25 requires that portable ladders shall be inspected frequently and those which have developed defects shall be withdrawn from service for repair or destruction and tagged or marked as “DANGEROUS, DO NOT USE”.

- Check the joints between the steps and side rails for tightness.
- Check to ensure that all hardware and fittings are securely attached.
- Check to ensure that movable parts operate freely without binding or undue play.
- Frequently lubricate bearings, wheels, pulleys, etc.
- Replace frayed or badly worn rope.
- Ensure safety feet and other auxiliary equipment is kept in good condition.
- Ensure rungs are kept free of grease and oil.

# 3rd Month Meeting Agenda

---



---

Date \_\_\_\_\_

## Attendees:

|       |       |
|-------|-------|
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |

### 1. Review of previous months LTA's and Medical Accidents:

---



---



---

### 2. New safety recommendations:

---



---



---

### 3. Safety recommendations completed:

---



---



---

### 4. Special projects

Fire extinguisher training by local fire department.

(Responsible person: \_\_\_\_\_).

Monthly inspection of emergency respirators. (Responsible person: \_\_\_\_\_).

### 5. Dust Explosion Prevention Training (See pages 3-2 and 3-3)

### 6. Meeting adjourned

## Dust Explosion Prevention Training Guidelines

The Grain Handling standard, 1910.272, Section (e), Training, requires that employees receive training in “the recognition and preventive measures for the hazards related to dust accumulations and common ignition sources such as smoking”.

- Furnish each attendee with a copy of Appendix C and review the four elements of an explosion:
  - (1) Fuel (grain dust).
  - (2) Ignition.
  - (3) Oxygen.
  - (4) Confined space.
- Point out that an explosion cannot occur if any one of the four elements is missing.
- Emphasize that the two most important risk factors are fuel (grain dust) and ignition.

### Fuel

- Review and discuss the following:

The various means and methods of controlling grain dust in the facility:

Dust collection systems.

Maintenance of the grain handling transfer systems.

Manual housekeeping.

Identify areas in the facility where dust tends to accumulate and point out the importance of manual housekeeping in those areas.

Review the facility housekeeping program with special attention given to the documented priority housekeeping areas.

Stress the importance of ongoing visual inspection of equipment in order to identify equipment in need of repair to stop dust leakage.

### Ignition

- Explain that ignition is the “match” of an explosion.
- Identify and discuss potential ignition sources at the facility, such as the following:
  - Unrestricted smoking.
  - Welding and cutting.

In Section (j) of 1910.272, OSHA requires that the use of compressed air “shall only be permitted when all machinery that represents an ignition source in the area is shut-down, and all other known ignition sources in the area are removed or controlled”.

- Poorly maintained electrical systems.
- Hot bearings.
- Head and/or tail pulley friction.
- Bucket elevator belt slippage.
- Tramp metal.

- Explain the vital role that good preventive maintenance plays in ignition source control.
- Inform attendees that blowdown, for the purpose of cleanup, is permitted only after special precautions have been implemented to isolate or remove potential ignition sources.

## Oxygen

- There is very little employees can do in this area, but the trainer may want to discuss the availability and use of inerting gases and explosion suppression systems to reduce the level of oxygen required to support 1st stage ignition.

## Confined space

Explain that a flash fire can occur in the absence of a confined space, but not an explosion.

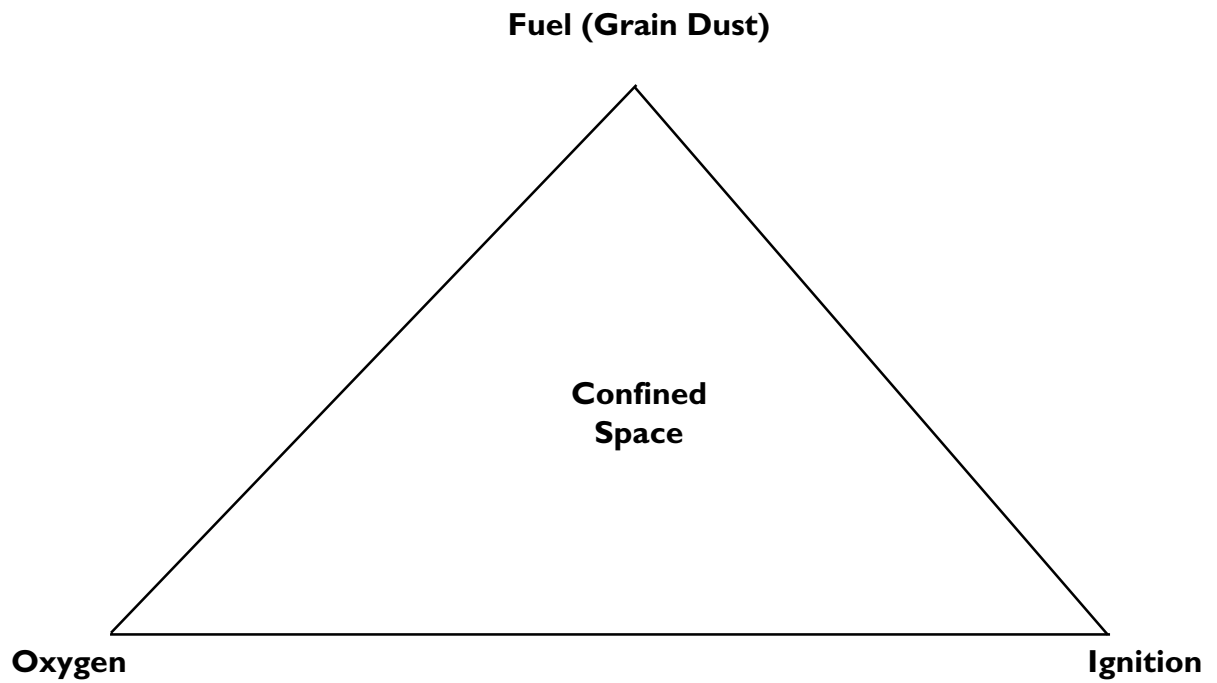
- To demonstrate the role a confined space plays in an explosion, just inflate a balloon until it ruptures. The same phenomena occurs in a grain dust explosion: heat expands the air (pressure rise) causing an explosion wherever there is confinement; such as a bucket elevator leg or a grain bin.
- Review the high risk areas in the facility. Such areas include (but are not limited to) inside bucket elevators, below grade tunnels, enclosed boot pits, garners, scales, spouting, distributors, and grain bins.
- Close the training session with the two fundamental laws of explosion prevention:

**“NO FUEL-NO EXPLOSION”**

**“NO IGNITION SOURCE-NO EXPLOSION”**

**Appendix C**

**Properties of a Dust Explosion**



# 4th Month Meeting Agenda

\_\_\_\_\_ Date\_\_\_\_\_

## Attendees:

|       |       |
|-------|-------|
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |

### 1. Review of previous months LTA's and Medical Accidents:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

### 2. New safety recommendations:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

### 3. Safety recommendations completed:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

### 4. Special projects

Facility compliance inspection for power transmission guarding. (See Appendix D).

(Responsible person:\_\_\_\_\_).

Monthly inspection of emergency respirators. (Responsible person:\_\_\_\_\_).

### 5. Welding and Cutting Training. (See pages 4-2, 4-3 and 4-4)

### 6. Meeting adjourned

## Welding and Cutting Procedures Training Guidelines

The Grain Handling standard, 29CFR 1910.272, Section (e), Training, requires that appropriate employees be trained in “hot work procedures”.

In 1910.252, OSHA requires management to “Designate an individual responsible for authorizing cutting and welding operations in areas not specifically designated for such processes”.

The trainer should point out that welding and cutting is not permitted in the presence of airborne dust nor on metal (such as a grain bin or a bucket elevator leg casing) unless such areas have been thoroughly cleaned at least 35 feet from the point of operation.

### Prohibited areas

Inform attendees of the following:

- Welding and cutting (hot work) may be performed only in areas designated by management.
  
- Welding and cutting is not permitted under the following conditions:
  - (a) In sprinkled buildings while such protection is impaired;
  
  - (b) In the presence of explosive atmospheres, or explosive atmospheres that may develop inside improperly prepared tanks or equipment that have previously contained combustible material (such as grain dust); and
  
  - (c) In areas near the storage of large quantities of exposed, readily ignitable material.

The rationale here is that the presence of the employer or the employer's representative (who is authorized to issue a hot work permit) at the work site, makes the written permit redundant and unnecessary. Of course, it is the employer's choice and many choose to require a written permit under any and all circumstances.

The trainer should emphasize that hot work is a high ignition risk if not performed with strict adherence to the control procedures under discussion.

## Hot Work Permit

Inform attendees that the Grain Handling standard, 29CFR 1910.272, Section (f), requires management to issue a written permit for all hot work, with the following three exceptions (See Appendix E):

- (1) Where the employer or the employer's representative (who would otherwise authorize the permit) is present while the hot work is being performed;
- (2) In welding shops authorized by the employer; and
- (3) In hot work areas authorized by the employer which are located outside of the grain handling structure.

## Welding and Cutting Procedures

Review and discuss the following procedures:

- Only trained personnel may perform welding and cutting.
- If possible, move the object to be welded or cut to a safe area, (such as outside the facility or in a welding shop).
- If the object to be welded or cut cannot be moved, thoroughly clean the area of combustible dust at least 35 feet from the work site and, if practicable, relocate all other combustible materials a safe distance from the work site (no closer than 35 feet).
- Protect combustible walls as necessary with fire resistant shields or guards to prevent ignition.
- Take precautions to ensure that sparks and/or slag are confined to the work area and will not fall through floor and wall openings.
- Suitably protect or shut down duct and conveyor sys-

tems so that sparks and/or slag will be transferred to distant combustibles.

- Protect combustible floors from ignition by wetting down with damp sand, or by fire resistant shields.
- A fire watch is required to be maintained for at least a half hour after completion of welding or cutting under the following conditions:
  - (1) There is appreciable combustible material in building construction or content closer than 35 feet to the point of operation;
  - (2) Appreciable amounts of combustibles are more than 35 feet away from the point of operation, but are of a type easily ignited;
  - (3) There are wall or floor openings within a 35 foot radius of the point of operation that exposes combustible material in adjacent areas including concealed spaces in walls or floors; and
  - (4) Combustible materials are adjacent to the opposite side of metal partitions, walls, ceilings, or roofs that are likely to be ignited by conduction of radiation.
- Ensure that fire watch personnel are provided with suitable fire extinguishing equipment and are properly trained in their use.
- Ensure that fire personnel are trained in the means and methods to sound the fire alarm should that be come necessary.

*Close the training by pointing out that safe welding and cutting is simply a matter of confining the ignition possibilities of such work to the smallest possible area and, on the other hand, isolating combustibles from the source of ignition.*

## Appendix D

### 29CFR 1910-219 Mechanical Power-Transmission Apparatus

- (1) Are flywheels that are located seven (7) feet or less above floor or platform guarded with a complete enclosure?

Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_

**Note:** Guarding material may be of sheet, perforated, or expanded metal, or woven wire. Permissible guarding may include guardrails not less than (15) inches nor more than twenty (20) inches from rim.

- (2) Are all exposed parts of horizontal shafting seven (7) feet or less from floor or working platform guarded by a stationary casing?

Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_

**Note:** Does not apply to horizontal shafting located within seven (7) feet of runways used exclusively for oiling or runway adjustments.

- (3) Is shafting under bench machines enclosed by a stationary casing, or by a trough at sides and top or sides and bottom, as location requires?

Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_

**Note:** Trough sides must come within at least (6) inches of the underside of the table, or if shafting is located near the floor within six (6) inches of the floor.

- (4) Are vertical and incline shafting seven (7) feet or less from floor or working platform enclosed by a stationary casing?

Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_

**Note:** Does not apply to vertical and inclined shafting located within seven (7) feet of maintenance runways.

- (5) Do projecting shaft ends present a smooth edge and end and not project more than one-half the diameter of the shaft unless guarded by nonrotating caps or safety sleeve?

Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_

- (6) Are unused keyways filled up or covered?

Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_

## Appendix D (continued)

**Note:** Power transmission apparatus located in basements need not be guarded when the following conditions are met:

- The basement, tower or room occupied by transmission equipment is locked against unauthorized entrance.
- The vertical clearance in passageways between the floor and power transmission beams, ceiling, or any other objects, is not less than five feet six inches (5 ft. 6 in.).
- The intensity of illumination conforms to the requirements of ANSI A11.1-1965.
- The route followed by maintenance personnel is protected in such a manner as to prevent accidents.

(7) Are pulleys located seven (7) feet or less from floor or working platform properly guarded?

Yes\_\_\_No\_\_\_NA\_\_\_

(8) Do guards on horizontal belts where both runs are located seven (7) feet or less from floor level extend at least fifteen (15) inches above the belt?

Yes\_\_\_No\_\_\_NA\_\_\_

(9) Are horizontal belts where both runs of the belt are 42 inches or less from the floor fully enclosed with a guard?

Yes\_\_\_No\_\_\_NA\_\_\_

(10) Are overhead horizontal belts where the lower parts are seven (7) feet or less from floor or platform guarded on the sides and bottom?

Yes\_\_\_No\_\_\_NA\_\_\_

(11) Are gears guarded as follows:

- By a complete enclosure? Yes\_\_\_No\_\_\_NA\_\_\_
- Or by a guard at least seven (7) feet high extending six (6) inches above the mesh point of the gears?

Yes\_\_\_No\_\_\_NA\_\_\_

(12) Are sprockets and chains located seven (7) or less from floor or platform properly guarded?

Yes\_\_\_No\_\_\_NA\_\_\_

Note: Does not apply to manually operated sprockets.

## Appendix D (continued)

- (13) Are projecting keys, setscrews and other projections in revolving parts removed, made flush, or guarded by a metal cover?  
Yes\_\_\_No\_\_\_NA\_\_\_

**Note:** Does not apply to keys or setscrews within gear or sprocket casings or other enclosures. Does not apply to keys, setscrews, or oilcups in hubs of pulleys less than twenty (20) inches in diameter where they are within the plane of the pulley rim.

- (14) Are projections on revolving couplings, such as bolts, nuts and setscrews guarded with a safety sleeve?  
Yes\_\_\_No\_\_\_NA\_\_\_

**Note:** Wood guards are permitted only under the following conditions:

- In woodworking and chemical industries;
- In industries where the presence of fumes or where manufacturing conditions would cause the rapid deterioration of metal guards; and
- In construction work and in locations outdoors where extreme cold make metal guards and railings undesirable.

For a comprehensive review of the regulatory requirements for all guarding of machines and machinery, consult Subpart O of the General Industry standards.

## Appendix E

### Cutting & Welding is Hazardous! Can It Be Avoided? Is There A Safer Way?

# PERMIT

**Applies Only to Area Specified Below**  
**Plan to do all welding and cutting in the morning!**

Date \_\_\_\_\_

Building \_\_\_\_\_ Floor \_\_\_\_\_

Nature of the job \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

The above location has been examined. The precautions checked on page 2 have been taken to prevent fire. Permission is granted for this work only.

Permit expires: \_\_\_\_\_  
Date Time

Signed \_\_\_\_\_  
Facility Manager

Time started \_\_\_\_\_ Time finished \_\_\_\_\_

#### FINAL CHECK-UP

Work area and all adjacent areas to which sparks and heat might have spread (such as floors above and below and on opposite side of walls) were inspected for at least 30 minutes after the work was completed and every 1/2 hour for the next 2 hours (or longer,) and were found fire safe.

Signed \_\_\_\_\_

After signing return permit to person who issued it.

(continued)

# PRECAUTIONS

**The Facility Manager or his appointee should inspect the proposed work area and check precautions taken to prevent fire.**

- ☐ Sprinklers in service (if applicable).
- ☐ Cutting and welding equipment in good repair.
- ☐ Proper Eye Protection.

## **Welding Procedures When In Plant Welding Or Cutting Cannot Be Avoided**

- ☐ Equipment in area shut down and purged of all flammable vapors and combustible materials.
- ☐ Clean area above and below, within 35 feet of hot work; block spouts, walls and floor openings with fire retardant material.
- ☐ Relocate any combustible material or flammable liquids within 35 ft. of hot work.
- ☐ If combustibles cannot be relocated, wet combustibles down or cover with damp sand, metal or fire retardant material.
- ☐ Post a fire watcher with a fire extinguisher during and for 1/2 hour after completion.
- ☐ Reinspect every 1/2 hour for 2 hours or longer after completion.
- ☐ Cool to touch before restarting machinery.
- ☐ Make a final check at closing time.

Signed \_\_\_\_\_

# 5th Month Meeting Agenda

Date\_\_\_\_\_

## Attendees:

|       |       |
|-------|-------|
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |

### 1. Review of previous months LTA's and Medical Accidents:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

### 2. New safety recommendations:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

### 3. Safety recommendations completed:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

### 4. Special projects

Facility compliance inspection for guarding floor and wall openings and holes. (See Appendix F.) (Responsible person:\_\_\_\_\_).

Monthly inspection of emergency respirators.

(Responsible person:\_\_\_\_\_).

### 5. Choked Leg Procedures training. (See pages 5-2 and 5-3).

### 6. Meeting adjourned

## Choked Leg Procedures Training Guidelines

The Grain Handling standard, 1910.272, Section (e) Training, requires that employees be trained in “clearing procedures for choked legs...”

Preface the review of choked leg procedures by informing employees that the procedures serve two primary purposes:

(1) To clear a choked leg as quickly and safely as possible and

(2) To determine what caused the choke in order to take the necessary corrective action to prevent a recurrence.

- Start the training by informing employees that “jogging” a leg to clear a choke is unsafe and is not permitted under any circumstances.
- Review and discuss the following choked leg procedures:
  - (1) Shut down the flow of grain to the leg.
  - (2) Put the start/stop mechanism of the leg in the OFF position and apply lockout/tagout devices.
  - (3) Report the choke to the appropriate supervisor.

**Note:** If the cause of the choke is known, implement the necessary corrective action and then proceed to procedure #8; if not known, proceed to procedure #4.

  - (4) Open the access to the head pulley and check the following: discharge throat for blockage; belt and lagging for signs of heat; and belt tracking.
  - (5) Pull the boot slide and clear the boot of grain to a point where the leg buckets will clear and check the following: belt for signs of heat; pulley; belt alignment; and foreign material.
  - (6) Open the leg inspection door on the work floor and check the belt splice and buckets for damage.
  - (7) If the leg is equipped with a slowdown device, check the device for malfunction.

**Note:** After the appropriate corrective action has been taken and the leg is deemed satisfactory to operate, proceed to procedure #8.

  - (8) Remove the lockout/tagout devices.
  - (9) Station an observer at leg inspection door on the workfloor to monitor leg startup.

- (10) Restart and run the leg for several minutes before resuming operations.
- (11) Resume operations if the leg continues to run normally.

## **Appendix F**

### **Subpart D Walking-Working Surfaces General Requirements 29CFR 1910.22**

- (1) Are all places of employment, passageways, and service rooms kept clean and orderly?

Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_

### **Guarding Floor and Wall Openings and Holes 29 CFR 1910.23**

#### **Specifications**

- **STANDARD RAILING:** Consists of a top rail, intermediate rail, and post, and must have a vertical height of 42 inches from top rail to the floor, platform, runway, or ramp level.
- **INTERMEDIATE RAIL:** Must be positioned approximately halfway between the top rail and the floor, platform, runway, or ramp.
- **STAIR RAILING:** Shall be similar in construction to a standard railing, but the vertical height shall be not more than 34 inches nor less than 30 inches from the upper surface of the top rail to surface of tread in line with face of riser at forward edge of tread.
- **WOOD RAILINGS:** The post shall be of at least 2-inch by 4-inch stock spaced not to exceed 6 feet; the top and intermediate rails shall be of at least 2-inch by 4-inch stock.

**EXCEPTION:** If the top rail is made of two right-angle pieces of 1-inch by 4-inch stock, post may be spaced on 8-foot centers, with 2-inch by 4-inch intermediate rail.

- **PIPE RAILINGS:** Post and top and intermediate railings shall be at least 1 and 1/2 inches nominal diameter with post spaced not more than 8 feet on centers.
- **STRUCTURAL RAILINGS:** Post and top and intermediate rails shall be of 2-inch by 2-inch by 3/4-inch angles or other metal shapes of equivalent bending strength with post spaced not more than 8 feet on centers.
- **POST:** Post and framing members shall be capable of withstanding a load of at least 200 pounds applied in any direction at any point on the top rail.
- **TOEBOARDS:** Shall be 4 inches nominal in vertical height from its top edge to the level of the floor, platform, runway, or ramp; and shall have not more than 1/4-inch clearance above floor level.

## **Appendix F**

### **(continued)**

**Note:** Any substantial material is acceptable with openings not to exceed 1 inch.

- **Handrails:**

- (1) Shall be mounted on the wall by means of brackets that are attached to the lower side of the handrail.
- (2) Constructed so as to offer an adequate handhold to prevent falling.
- (3) Ends should be turned in.
- (4) Height shall be not more than 34 inches or less than 30 inches from the upper surface of the handrail to surface of tread in line with face of riser or surface of ramp.
- (5) When of hardwood, size shall be at least 2 inches in diameter; when of metal pipe, at least 1 and 1/2 inches in diameter.
- (6) Hand clearance from the nearest wall or projection shall be not less than 3 inches.
- (7) Mounting shall be capable of withstanding a load of at least 200 pounds applied in any direction at any point on the rail.

### **WALL OPENINGS**

- (1) Barriers such as rails, rollers, picket fences and half doors shall be capable of withstanding a load of at least 200 pounds applied in any direction, except - upward, at any point on the top rail or corresponding members.
- (2) **GRAB HANDLES:** Shall be not less than 12 inches in length and be so mounted as to give 3 inches clearance from the sides framing the wall opening.
- (3) **SCREENS:** Shall be capable of withstanding a load of at least 200 pounds applied horizontally at any point on the near side of the screen.
- (4) Screen construction may be solid, of grillwork with openings not more than 8 inches long or of slotwork with openings not more than 4 inches wide with length unrestricted.

## Appendix F (continued)

- (1) Are stairway floor openings guarded by a railing on all exposed sides (except at the entrance to a stairway)?

Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_

- (2) Are ladderway floor openings or platforms guarded with a standard railing and standard toeboard on all exposed sides (except at entrance to opening)?

Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_

- (3) Are entrance openings tht allow passage through guard rails either provided with a swinging gate or so offset that a person cannot walk directly into the opening?

Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_

- (4) Are hatchway and chute floor openings guarded by one of the following:  
(a) A hinged floor opening cover of standard strength and construction equipped with standard railings or permanently attached thereto so as to leave only one exposed side?

Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_

**Note:** Whenever the opening is not in use, the cover must be closed or the exposed side guarded at the top and intermediate position by removable standard railings.

- (b) A movable railing with toeboard on not more than two sides of the opening and fixed standard railings with toeboards on all other exposed sides?

Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_

**Note:** The removable railings must be kept in place whenever the opening is not in use.

**Note:** Where operating conditions necessitate the feeding of material into any hatchway or chute opening, protection must be provided to prevent a person from falling through the opening. Such protection could include warning signs, removable barriers, and flashing red lights.

## Appendix F (continued)

- (5) Are frequently used pit and trap door floor openings guarded by a floor opening cover of standards strength and construction?

Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_

**Note:** Whenever the cover is not in place, the pit or trap opening must be constantly attended by someone or be protected by removable standard railings.

- (6) Is every manhold floor opening guarded by a standard manhole cover?

Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_

**Note:** Manhole covers need not be hinged in place. Whenever the cover is not in place, the manhole opening must be constantly attended by someone or be protected by removable standard railings.

- (7) Are temporary floor openings constantly attended by someone or protected by removable standard railings.

Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_

- (8) Are floor holes into which persons could accidentally walk guarded by one of the following:

- (a) A standard railing with standard toeboard on all exposed sides?

Yes\_\_\_\_No\_\_\_\_Na\_\_\_\_

- (b) A floor hole cover of standard strength and construction?

Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_

**Note:** Whenever the cover is not in place the floor hole must be constantly attended by someone or be protected by a removable standard railing.

- (9) Are floor openings into which persons cannot accidentally walk (due to machines, equipment, or walls) protected by a cover with openings not more than 1 inch wide?

Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_

**Note:** Such covers must be securely held in place to prevent tools or materials from falling through.

## Appendix F (continued)

- (10) (a) Are all wall openings (including temporary wall openings, and chute wall openings) from which there is a drop of more than 4 feet properly guarded?

Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_

**Note:** See specifications: WALL OPENINGS. Guarding for temporary wall openings need not be of standard construction.

- (b) Are toeboards or the equivalent provided at such openings where there is exposure below to falling material?

Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_

- (c) Are wall openings provided with a grab handle on each side of the opening?

Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_

**Note:** See Specifications: WALL OPENINGS: Item 2.

- (11) Are window wall openings from which there is a drop of more than 4 feet, and where the bottom of the opening is less than 3 feet above the platform or landing properly guarded.

Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_

**Note:** See Specifications: WALL OPENINGS: Items 3 and 4. Where the window opening is below the landing, or platform, a standard toeboard is required.

- (12) Are toeboards provided at wall holes where the lower edge of the near side of the hole is less than 4 inches above the floor, and the far side of the hole is more than 4 feet above the next lower level?

Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_

**Note:** In addition to a standard toeboard, optional guarding may be as stated in the Specifications: WALL OPENINGS: Items 3 and 4.

For a comprehensive review of the regulatory requirements for Floor and Wall openings, and Holes consult Subpart D-Walking and Working Surfaces, Section 1910.23 of the General Industry standards.

# 6th Month Meeting Agenda

Date\_\_\_\_\_

## Attendees:

|       |       |
|-------|-------|
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |

### 1. Review of previous months LTA's and Medical Accidents:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

### 2. New safety recommendations:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

### 3. Safety recommendations completed:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

### 4. Special projects

Facility compliance inspection for protection of open-sided floors, platforms, and runways and stairways railings and guards. (See Appendix G.) (Responsible person:\_\_\_\_\_).

Monthly inspection of emergency respirators. (Responsible person:\_\_\_\_\_).

### 5. Emergency Action Plan Training. (See pages 6-2, 6-3, 6-4 and 6-5).

### 6. Meeting adjourned

## Emergency Action Plan Training Guidelines

The Grain Handling standard, 29CFR 1910.272, Section (d), Emergency Action Plan, requires that “The employer shall develop and implement an emergency action plan meeting the requirements contained in 1910.38(a)”.

For those employers with 10 or fewer employees, the plan may be communicated orally and need not be in writing. OSHA requires that all employees, including truck drivers, sales and office personnel, seasonal employees, and part-time employees must be included in determining the total number of employees at a given workplace.

The following elements, at a minimum, must be included in the plan.

(1) Emergency escape procedures and emergency escape routes assignments.

Note: Although the training guidelines below are designed primarily with a grain dust explosion in mind, facility management should consider a similar plan for other types of emergencies that could reasonably be expected to occur; such as flood, tornado, bomb threat or confined space emergency rescue.

- Start the meeting by informing the attending employees where the facility written plan is located and that it is available for employee review.

- Review the procedure(s) each employee is to follow in the event of an emergency evacuation. Examples of such procedures are:

Procedures to shut down product flow.

Procedures to shut down grain dryer operations.

Procedures to shut down the facility electrical systems in the event of exposed conductors.

Procedures to collect the “in” time cards to account for employees at the designated employee recovery area.

Procedures to shut down the flow of propane or natural gas into the facility.

Procedures to secure temporary electrical power and telephone service.

Procedures to secure temporary electrical power telephone service.

Procedures for facility security.

Procedures to evacuate injured employees from the upper levels of the facility.

Procedures to summon professional medical assistance, ambulance, fire department, and police.

**Note:** The above are only examples of what should be covered in emergency action procedures and are not all inclusive.

- Review the emergency escape routes employees are to use.

**Note:** If possible, assign secondary routes of escape in case a primary route is not available due to damage or smoke and fire.

Fire rated stairways, fixed ladders, controlled descent devices, emergency exit ladders on manlifts, and hand-powered manlifts are acceptable emergency escape routes. Power-driven endless belt manlifts, and personnel elevators are not acceptable escape routes.

The use of floor plans or workplace maps which clearly show the emergency escape routes are helpful training aids. Color coding of escape routes is also desirable.

(2) Procedures to be followed by employees who remain to operate critical plant operations before they evacuate.

- Review the procedures to be followed by those employees who have been selected to remain behind to care for essential plant operations until their evacuation becomes absolutely necessary. Essential plant operations could include, but are not limited to: power plant supplies; water supply; and manufacturing processes which must be shut down in stages.

(3) Procedures to account for all employees after emergency evacuation has completed.

The facility recovery area should be in a location remote enough to be unaffected by the emergency.

In large facilities where the employee population is more numerous, the “in” time cards in an effective way to conduct a head-count at the recovery area.

(4) Rescue and medical duties for those employees who are to perform them.

(5) The preferred means of reporting fires and other emergencies.

OSHA requires the employer to post emergency telephone numbers near telephones or on an employee bulletin board when telephones serve as a means of reporting emergencies.

(6) Names or regular job titles of persons or departments who can be contacted for further information or explanation of duties under the plan.

- Ensure that all employees know where the facility recovery area is located and emphasize the importance of reporting there so that everyone can be accounted for.
- Review with the person responsible for the employee head-count the procedure and method to be used to determine whether or not all affected employees are accounted for.

- Confirm those employees who will perform first aid, CPR, and emergency rescue, if needed.

Confirm where first aid supplies and emergency rescue equipment is located.

**Note:** Be sure that all members of the emergency rescue team are properly trained and the emergency medical people properly certified.

- Confirm the means to be used for reporting an emergency; such as manual pull box alarms, public address systems, radio or telephone.
- Review the procedures for contacting emergency services in the event that the workplace telephone service has been interrupted.

- Confirm here the persons and/or departments that may be needed to assist or supply emergency action plan information. While not all inclusive, the list below represents the type of additional support that should be discussed and documented in the plan:  
Key local management personnel;  
Key hourly personnel;

(7) Alarm system.  
(See Appendix H).

Company legal personnel;  
Company medical personnel; and  
Key corporate headquarters personnel.

- Ensure that employees will recognize the alarm as a signal to evacuate the work area and to perform designated assignments under the emergency action plan.

## Appendix G

### Protection of Open-Side Floors, Platforms, and Runways 29CFR 1910.23(c)

- (1) (a) Is every open-sided floor, platform, or runway 4 feet or more above the adjacent floor or ground level guarded by standard railing on all open sides except where there is entrance to a ramp, stairway, or fixed ladder?

Yes\_\_\_No\_\_\_NA\_\_\_

- (b) Are railings equipped with toeboards wherever, beneath the open sides:

(1) Persons can pass? Yes\_\_\_No\_\_\_NA\_\_\_

(2) There is moving machinery? Yes\_\_\_No\_\_\_NA\_\_\_

(3) There is equipment with which falling materials could create a hazard? Yes\_\_\_No\_\_\_NA\_\_\_

**Note:** Runways used exclusively for special purposes, such as oiling, shafting, or filling hopper cars, may have the railing on one side omitted where operating conditions necessitate such omissions, providing the falling hazard is minimized by using a runway of not less than 18 inches wide.

- (2) Regardless of height, are open-sided floors, walkways, or runways that are located above or adjacent to dangerous equipment guarded with a standard railing and toeboard?

Yes\_\_\_No\_\_\_NA\_\_\_

For a comprehensive review of the regulatory requirements for the Protection of Open-sided Floors, Platforms and Runways, consult Subpart-D Walking and Working Surfaces, 1910.23(c).

**Appendix G  
(continued)**

**Stairway Railings and Guards  
29CFR 1910.23(d)**

- (1) Is every flight of stairs having 4 or more risers equipped with standard railings or standard handrails as follows:
- (a) On stairways less than 44 inches wide having both sides enclosed, at least one handrail, preferably on the right side descending?  
Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_
- (b) On stairways less than 44 inches wide having one side open, at least one railing on the open side? Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_
- (c) On stairways less than 44 inches wide having both sides open one railing on each side? Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_
- (d) On stairways 88 or more inches wide, one handrail on each enclosed side, one stair railing on each open side, and one intermediate stair railing located approximately midway of the width  
Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_

For a comprehensive review of the regulatory requirements for Stairway Railing and Guards, consult Subpart D-Walking and Working Surfaces, Section 1910.23(d).

## **Appendix H**

### **Employee Alarm Systems 1910.165**

**(a) Scope and application.**

- (1) This section applies to all emergency employee alarms installed to meet a particular OSHA standard. This section does not apply to those discharge or supervisory alarms required on various fixed extinguishing systems or to supervisory alarms on fire suppression, alarm or detection systems unless they are intended to be employee alarm systems.
- (2) The requirements in this section that pertain to maintenance, testing and inspection shall apply to all local fire alarm signaling systems used for alerting employees regardless of the other functions of the system.
- (3) All pre-discharge employee alarms installed to meet a particular OSHA standard shall meet the requirements of paragraphs (b)(1) through (4), (c) and (d)(1) of this section.

**(b) General requirements.**

- (1) The employee alarm system shall provide warning for necessary emergency action as called for in the emergency action plan, or for reaction time for safe escape of employees from the workplace or the immediate work area, or both.
- (2) The employee alarm shall be capable of being perceived above ambient noise or light levels by all employees in the affected portions of the workplace. Tactile devices may be used to alert those employees who would not otherwise be able to recognize the audible or visual alarm.
- (3) The employee alarm shall be distinctive and recognizable as a signal to evacuate the work area or to perform actions designated under the emergency action plan.
- (4) The employer shall explain to each employee the preferred means of reporting emergencies, such as manual pull box alarms, public address systems, radio or telephones. The employer shall post emergency telephone numbers near telephones, or employee notice boards, and other conspicuous locations when telephones serve as a means of reporting emergencies. Where a communication system also serves as the employee the employee alarm system, all emergency messages shall have priority over all non-emergency messages.

## **Appendix H (continued)**

- (5) The employer shall establish procedures for sounding emergency alarms in the workplace. For those employers with 10 or fewer employees in a particular workplace, direct voice communication is an acceptable procedure for sounding the alarm provided all employees can hear the alarm. Such workplaces need not have a back-up system.

**(c) Installation and restoration.**

- (1) The employer shall assure that all devices, components, combinations of devices or systems constructed and installed to comply with this standard are approved. Steam whistles, air horns, strobe lights or similar lighting devices, or tactile devices meeting the requirements of this section are considered to meet this requirement for approval.
- (2) The employer shall assure that all employee alarm systems are restored to normal operating condition as promptly as possible after each test or alarm. Spare alarm devices and components subject to wear or destruction shall be available in sufficient quantities and locations for prompt restoration of the system.

**(d) Maintenance and testing.**

- (1) The employer shall assure that all employee alarm systems are maintained in operating condition except when undergoing repairs or maintenance.
- (2) The employer shall assure that a test of the reliability and adequacy of non-supervised employee alarm systems is made every two months. A different actuation device shall be used in each test of a multi-actuation device system so that no individual device is used for two consecutive tests.
- (3) The employer shall maintain or replace power supplies as often as is necessary to assure a fully operational condition. Back-up means of alarm, such as employee runners or telephones, shall be provided when systems are out of service.
- (4) The employer shall assure that employee alarm circuitry installed after January 1, 1981, which is capable of being supervised is supervised and that it will provide positive notification to assigned personnel whenever a deficiency exists in the system. The employer shall assure that all supervised employee alarm systems are tested at least annually for reliability and adequacy.

## **Appendix H (continued)**

- (5) The employer shall assure that the servicing, maintenance and testing of employee, maintenance and testing of employee alarms are done by persons trained in the designed operation and functions necessary for reliable and safe operation of the system.
- (e) Manual operation. The employer shall assure that manually operated actuation devices for use in conjunction with employee alarms are unobstructed conspicuous and readily accessible.

# 7th Month Meeting Agenda

Date \_\_\_\_\_

## Attendees:

|       |       |
|-------|-------|
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |

### 1. Review of previous months LTA's and Medical Accidents:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

### 2. New safety recommendations:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

### 3. Safety recommendations completed:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

### 4. Special projects

Facility compliance inspection for fixed ladders. (See Appendix I)

Responsible person: \_\_\_\_\_).

Monthly inspection of emergency respirators. (Responsible person: \_\_\_\_\_).

### 5. Use of Respiratory Protection Training. (See pages 7-2, 7-3, and 7-4).

### 6. Meeting adjourned

# Training for the Use of Respiratory Protection Equipment

29CFR 1910.134(b)(3) requires that “The user shall be instructed and trained in the proper use of respirators and their limitations” and 1910.134(e)(5) requires that “the user be properly instructed in its selection, use, and maintenance”.  
(See Appendix J).

The topics below provide essential employee information and should be discussed at this time:

- (1) Identification of the contaminant(s) against which the respirator is designed to afford protection;
- (2) Limitations of the service life of the cartridge, canister, or filter which is used; and
- (3) The warning properties of the contaminant(s).

- Start the meeting by commenting that a respirator is nothing more or less than a barrier between an airborne hazard and the human respiratory system.
- Emphasize that an effective respiratory protection program depends upon three basic factors:
  - (1) Respirator selection. (See Appendix K);
  - (2) Respirator use; and
  - (3) Respirator inspection, maintenance, and cleaning.

## Respirator Selection

Inform employees that proper respirator selection depends upon the following information:

- What is the airborne contaminant that presents the hazard?
- What is the anticipated length of the exposure, and the amount (concentration) of the exposure?
- If oxygen deficiency is the problem, only a respirator that supplies air to the respirator user (such as a SCUBA) is acceptable.

## Respirator Use

Comment here that the respirator must be worn as it was originally intended:

Additional training required by 1910.134(e)(5), “shall provide the user an opportunity to handle the respirator, have it fitted properly, test its face-piece-to-face seal, wear it in normal air for a long familiarity period and, finally, to wear it in a test atmosphere”.

- The respirator and all functional parts including straps must be in place and worn in the appropriate positions.
- All straps must be securely and properly adjusted.
- There must be NO modification to the respirator or straps. For example, replacing straps with string or rubber bands is prohibited.
- Use of a facelet or knitted covering over the rubber face seal voids the approval of the respirator. Facial hair on respirator users should not be permitted.
- At this point in the training, provide employees with the appropriate respirator and demonstrate how the device is properly donned, adjusted, and worn.
- Demonstrate how the “Negative Pressure Test” and the “Positive Pressure Test” are carried out and have each user perform the tests. (See Appendix L).

Important note: Neither the Negative Pressure Test or the Positive Pressure Test may be substituted for the Quantitative or the Qualitative Fit Test. (See Appendix L).

## **Respirator Inspection**

Instruct employees to perform the following:

- Check the tightness of connections and the condition of the facepiece, headbands, valves, connecting tube and canisters.
- Inspect the rubber or elastomer parts for pliability and signs of deterioration.

## **Respirator Maintenance**

- Instruct employees to stretch and manipulate the rubber or elastomer parts with a massaging action to keep them pliable and flexible and to prevent them from taking a set during storage.
- Emphasize that replacement or repairs must be done only by experienced persons and with parts designed for the respirator.

29CFR 1910.134(f)(2)(iv)  
requires that “A record shall  
be kept of inspection dates  
and findings for respirators  
maintained for emergency  
use.

- Attempts to replace components or make repairs or adjustments beyond the manufacturers recommendations is not permitted.

## **Respirator Cleaning**

(See Appendix M).

## Appendix I

### Fixed Ladders 29CFR 1910.27

- (1) Are the rungs on metal ladders a minimum diameter of three-fourths inch and a minimum diameter of 1 and 1/8 inches for the rungs on wooden ladders?

Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_

- (2) Is the spacing of rungs 12 inches or less and uniform throughout the length of the ladder?

Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_

- (3) Is the clear length of rungs or cleats not less than 16 inches?

Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_

- (4) Is a clear width of at least 15 inches provided each way from the centerline of ladders in climbing spaces?

Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_

**Note:** Does not apply to ladders located in wells, nor to ladders equipped with cages or baskets.

- (5) Is the distance from the centerline of the rungs, cleats, or steps to the nearest permanent object in back of ladders not less than 7 inches?

Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_

- (6) Is the distance from the centerline of grab bars to the nearest permanent object in back of grab bars not less than 4 inches?

Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_

**Note:** Grab bars may not protrude on the climbing side beyond the rungs of the ladder they serve.

- (7) Is the step-across distance from the nearest edge of ladders to the nearest edge of equipment or structure not more than 12 inches nor less than 2 and 1/2 inches?

Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_

## Appendix I (continued)

**Note:** Whenever the step-across distance is greater than 12 inches, a landing platform is required.

- (8) Are ladders of more than 20 feet to a maximum unbroken length of 30 feet provided with safety cages?

Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_

- (9) Do safety cages extend at least 42 inches above the top landing?

Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_

- (10) Do safety cages extend down ladders to at least 7 feet nor more than 8 feet above the base of ladders?

Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_

- (11) Are the bottoms of safety cages flared not less than 4 inches, or a portion of the cage carried to the base?

Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_

- (12) Do safety cages extend not less than 27 nor more than 28 inches from the centerline of ladder rungs?

Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_

- (13) Are safety cages not less than 27 wide?

Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_

- (14) For ladders exceeding 20 feet, are landing platforms provided for each 30 feet of height or fraction thereof?

Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_

**Note:** Where no cage or safety device is provided, landing platforms are required for each 20 feet of height or fraction thereof.

## Appendix I (continued)

(15) Are landing platforms equipped with standard guard railings and toeboards?

Yes\_\_\_No\_\_\_NA\_\_\_

(16) Is one rung of any section of ladders located at the level of the landing laterally served by the ladder?

Yes\_\_\_No\_\_\_NA\_\_\_

(17) Do the side rails of through or side-step ladders extend at least 3 and 1/2 feet above parapet and landings?

Yes\_\_\_No\_\_\_NA\_\_\_

(18) Are horizontal grab bars spaced the same as the rung spacing on the ladder?

Yes\_\_\_No\_\_\_NA\_\_\_

(19) Are vertical grab bars spaced the same as the side rails of the ladder?

Yes\_\_\_No\_\_\_NA\_\_\_

**Note:** Ladder safety devices may be used on fixed ladders over 20 feet in unbroken length in lieu of landing platforms.

(20) Are ladders, both fixed and portable, regularly inspected and well maintained?

Yes\_\_\_No\_\_\_NA\_\_\_

For a comprehensive review of the regulatory requirement for fixed ladders, consult Subpart D-Walking and Working Surfaces, Section 1910.27 of the General Industry standards.

## Appendix J

### Permissible Practice 29CFR 1910.134

#### § 1910.135 Respiratory protection.

(a) *Permissible practice.* (1) In the control of those occupational diseases caused by breathing air contaminated with harmful dusts, fogs, fumes, mists, gases, smokes, sprays, or vapors, the primary objective shall be to prevent atmospheric contamination. This shall be accomplished as far as feasible by accepted engineering control measures (for example, enclosure or confinement of the operation, general and local ventilation, and substitution of less toxic materials). When effective engineering controls are not feasible, or while they are being instituted, appropriate respirators shall be used pursuant to the following requirements.

(2) Respirators shall be provided by the employer when such equipment is necessary to protect the health of the employee. The employer shall provide the respirators which are applicable and suitable for the purpose intended. The employer shall be responsible for the establishment and maintenance of a respiratory protective program which shall include the requirements outlined in paragraph (b) of this section.

(3) The employee shall use the provided respiratory protection in accordance with instructions and training received.

(b) *Requirements* for a minimal acceptable program (1) Written standard operating procedures governing the selection and use of respirators shall be established.

(2) Respirators shall be selected on the basis of hazards to which the worker is exposed.

(3) The user shall be instructed and trained in the proper use of respirators and their limitations.

(4) [Reserved]

(5) Respirators shall be regularly cleaned and disinfected. Those used by more than one worker shall be thoroughly cleaned and disinfected after each use.

(6) Respirators shall be stored in a convenient, clean, and sanitary location.

(7) Respirators used routinely shall be inspected during cleaning. Worn or deteriorated part shall be replaced. Respirators for emergency use such as self-contained devices shall be thoroughly inspected at least once a month and after each use.

(8) Appropriate surveillance of work area conditions and degree of employee exposure or stress shall be maintained.

(9) There shall be regular inspection and evaluation to determine the continued effectiveness of the program.

(10) Persons should not be assigned to tasks requiring use of respirators unless it has been determined that they are physically able to perform the work and use the equipment. The local physician shall determine what health and physical conditions are pertinent. The respirator user's medical status should be reviewed periodically (for instance, annually).

## Appendix K

# Selection of Respirators

(This table presents a simplified version of characteristics and factors used for respirator selection. It does not specify the contaminant or particle size.)

| Hazard   | Respirator   |
|--|--|
| <b>1. Oxygen deficiency</b>  |  |
| Immediately dangerous to life or health*   | Any positive-pressure SCBA<br><br>Combination positive-pressure SAR with auxiliary self-contained air supply.  |
| Not immediately dangerous to life or health  | Any positive-pressure SCBA or supplied-air respirator.   |
| <b>2. Gas and vapor contaminants</b>   |  |
| Immediately dangerous to life or health*   | Positive-pressure SCBA.<br><br>Combination positive-pressure SAR with auxiliary self-contained air supply.   |
| Not immediately dangerous to life or health.   | Any positive-pressure SAR. Gas mask. Chemical cartridge respirator.  |
| <b>3. Particulate contaminants</b>   | Any positive-pressure SAR including abrasive blasting respirator. Powered air-purifying respirator equipped with high-efficiency filters. Any air-purifying respirator with a specific particulate filter. |
| <b>4. Gaseous and particulate contaminants</b>   |  |
| Immediately dangerous to life or health*   | Positive-pressure SCBA. Combination positive-pressure SAR with auxiliary self-contained air supply.  |
| Not immediately dangerous to life or health  | Any positive-pressure supplied-air respirator. Gas mask. Chemical-cartridge respirator.  |
| <b>5. Escape from contaminated atmosphere that may be immediately dangerous to life or health*</b> | Any positive-pressure SCBA. Gas mask. Combination positive-pressure SAR with escape SCBA.  |
| <b>6. Firefighting</b>   | Any positive-pressure SCBA.  |

\*Note: "Immediately dangerous life or health" is any condition that poses either an immediate threat to life or health or an immediate threat of severe exposure to contaminants, such as radioactive materials, which are likely to have adverse delayed effects on health.

## Appendix L

# Respiratory Protection Program 29CFR 1910.134

### E. Fit Testing.

1. **Requirements.** 29 CFR 1910.134 (e)(5) states that respirators shall be fitted properly and shall be tested for their facepiece-to-face seal. 29 CFR 1910 (e)(5)(i) states that respirators shall not be worn when conditions prevent a good face seal. Examples listed in the standard of conditions that may interfere with facial seal are:
  - a. Sideburns and/or skull caps that project under the facepiece.
  - b. Temple bars on glasses (especially when wearing full face respirators) and/or the absence of one or both.
2. **Quantitative Fit Test.** The purpose of the quantitative fit test is to determine the proper fit and degree of integrity of the face fit under actual wearing conditions. It is intended to provide the best method of fitting the respirator to the individual, using sensitive methods of detection for leakage or malfunction.
  - a. Quantitative respirator fit tests involve exposing the respirator wearer to a test atmosphere containing an easily detectable, relatively nontoxic aerosol, vapor, or gas as the test agent and then measuring the penetration of the test agent into the respirator. There are a number of test atmospheres, test agents, and exercises to perform during the tests. Manufacturers' recommendations should be followed for specific tests.
  - b. ANSI Z88.1-1980 describes a typical test protocol and exercise for performing quantitative fit testing. The compounds listed in Table V-4 are suitable test agents.
3. **Qualitative Fit Test.** Qualitative fit tests involve a test subject's responding (either voluntarily or involuntarily) to a chemical outside the respirator facepiece. These tests are fast, easily performed, and use inexpensive equipment. Because they are based on the respirator wearer's subjective response to the test chemical, however, reproducibility and accuracy may vary. Three of the most popular methods are an irritant smoke test, an odorous vapor test, and a taste test. Procedures for some of these test methods are detailed in an addendum to OSHA's "Occupational Exposure to Lead: Respirator Fit Testing," Federal Register (FR 51118). ANSI Z88.2-1980 also includes protocols for the irritant smoke and odorous vapor tests. The following represent a brief summary of each of these tests.
  - a. **Irritant Smoke Test**
    - (1) The irritant smoke test is performed by directing an irritant smoke, usually either stannic chloride or titanium tetrachloride, from a smoke

## **Appendix L (continued)**

tube towards the respirator being worn. If the wearer cannot detect the irritant smoke, a satisfactory fit is assumed to be achieved.

- (2) The respirator wearer will react involuntarily, usually by coughing or sneezing, to leakage around or through the respirator. Since this is a qualitative test, the testor is interested in any response to the smoke. The degree of response is not important.

NOTE: The test substances are irritants to the eyes, skin, and mucous membranes. Therefore, the respirator wearer should keep his/her eyes closed during testing.

- (3) When an air-purifying respirator is tested, it has to be equipped with a high efficiency filter.

### **(b) Odorous Vapor Test.**

- (1) The odorous vapor test relies on the respirator wearer's ability to detect an odorous material, usually isoamyl acetate (banana oil) inside the respirator. The test is performed by passing an isoamyl acetate saturated material around the outside of the respirator, or by introducing the wearer to a concentration of the chemical in a room, chamber, or hood. If the wearer is unable to smell the chemical, then a satisfactory fit is assumed to be achieved.
- (2) The use of isoamyl acetate as a test agent has the following limitations:
  - (a) The odor threshold varies widely among individuals.
  - (b) Olfactory fatigue may cause a person to fail to detect the odor.
  - (c) The test is dependent on the wearer's honest response. There is no involuntary reaction.
- (3) When an air-purifying respirator is tested, it should be equipped with an organic cartridge or canister which removes the test vapor from the air.

### **C. Taste Test.**

- (1) The taste test relies upon the respirator wearer's ability to detect a chemical substance, usually sodium saccharin, by tasting it inside the respirator. The test is performed by placing an enclosure (hood) over the respirator wearer's head and shoulders and spraying the test agent into the enclosure with a

## Appendix L (continued)

nebulizer. If the wearer is unable to taste the chemical, then a satisfactory fit is assumed to be achieved.

- (2) Limitations to the use of sodium saccharin are that taste thresholds for it are highly variable, and the test is totally dependent on the wearer's honest indication of taste. There is no involuntary response. The wearer must not eat, drink (except plain water), chew gum or tobacco for 15 minutes before the test to avoid masking the taste of saccharin.
- (3) This test can be used for both air-purifying respirators and atmosphere-supplying respirators. When air-purifying respirators are tested, they should be equipped with a particulate filter cartridge.

**Note:** This test is normally used for single-use, disposable type dust respirators.

4. **Field Test Measures.** There are two tests that can be used in the field to check the seal of the respirator: positive and negative pressure sealing tests. Each should be performed every time a respirator is donned, or else the procedures recommended by the manufacturer should be followed. Neither field test may be substituted for quantitative or qualitative tests. Adequate training of respirator users is essential for satisfactory field tests. The following procedures are recommended by ANSI Z88.2-1980.

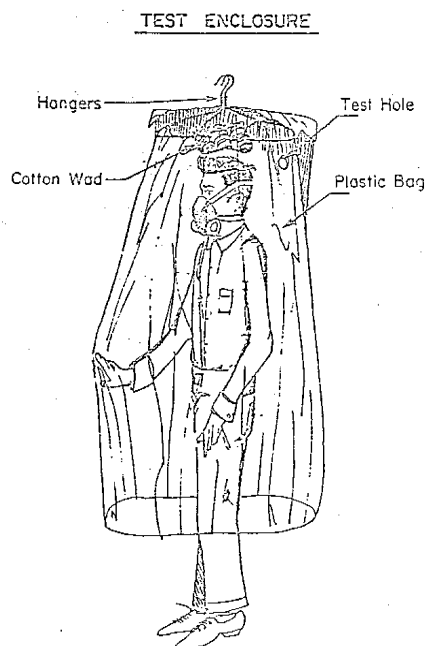
- a. **Negative Pressure Test.** This test may be impossible to carry out on valveless respirators and on many disposable (single-use) respirators. However, this test can be used on air-purifying respirators equipped with tight fitting respirator inlet coverings and atmosphere-supplying respirators equipped with tight fitting respirator inlet coverings and breathing tubes which can be squeezed or blocked at the inlet to prevent the passage of air.
  - (1) The inlet opening of the respirator's canister(s), cartridge(s), or filter(s) is closed off by covering with the palm of the hand(s), by replacing the inlet seal on canister(s), or by squeezing a breathing tube or blocking its inlet so that it will not allow the passage of air.
  - (2) The wearer is instructed to inhale gently and hold his breath for at least 10 seconds.
  - (3) If a facepiece collapses slightly and no inward leakage of air into the facepiece is detected, it can be reasonably assured that the respirator has been properly donned and the exhalation valve and facepiece are not leaking.

## Appendix L (continued)

- b. **Positive Pressure Test.** A positive pressure test can be used on respirators equipped with tight fitting respiratory inlet covering which carry contain both inhalation and exhalation valves. This test may be impossible to carry out on valveless respirators and on many disposable respirators.
- (1) The exhalation valve or breathing tube, or both, is closed off and the wearer is instructed to exhale gently.
  - (2) The respirator has been properly donned if a slight positive pressure can be built up inside the facepiece without the detection of any outward leakage of air between the sealing surface of the facepiece and the wearer's face.
  - (3) For some respirators, this test method requires that the respirator wearer first remove the exhalation valve cover from the respirator and then replace it after completion of the test. These tasks often are difficult to carry out without disturbing the fit of the respirator to the wearer.

Regulations require that the user be allowed to test the facepiece to face seal of the respirator and wear it in a test atmosphere. The test atmosphere amounts to an enclosure in which (1) the user can enter with the equipment on, and (2) a "test" contaminant (of low toxicity) can be placed. While elaborate enclosures are available commercially, the employer can put together a "do it yourself" qualitative fit test enclosure by the use of a plastic bag (a dry cleaning bag), several hangers, and some cotton.

During any fitting test, the respirator headstraps must be as comfortable as possible. Tightening the straps will sometimes reduce facepiece leakage, but the wearer may be unable to tolerate the respirator for any length of time.



## Appendix M

# Respiratory Protection Program

## 29CFR 1910.134

### E. Cleaning.

1. **Requirements.** 29 CFR 1910.134 (b)(5) states, “Respirators shall be regularly cleaned and disinfected. Those issued for the exclusive use of one worker should be cleaned after each day’s use, or more often if necessary.” This applies only to those respirators that are routinely used throughout the day. Cleaning at less than daily frequency is acceptable if proper protection is still afforded to the employee.
2. **Methods.** Respirators are usually cleaned by one of the following methods.
  - a. **Manual Cleaning.**
    - (1) A generalized cleaning procedure is:
      - (a) Remove canisters, filters, valves, straps, and speaking diaphragms from the facepiece.
      - (b) Wash facepiece and accessories in warm soapy water. Gently scrub with a brush.
      - (c) Rinse parts thoroughly in clean water.
      - (d) Air dry in a clean place or wipe dry with a lintless cloth.
      - (e) Reassemble.
    - (2) An alternate method is to use a commercially available cleaner, following the manufacturer’s instructions.
      - (b) **Machine Cleaning.** Machines may be used to expedite the cleaning, sanitizing, rinsing, and drying of large numbers of respirators.
        - (1) Extreme care must be taken to ensure against excessive tumbling and agitation, or exposure to temperatures above those recommended by the manufacturer (normally 49°C or 120°F maximum), as these conditions are likely to result in damage to the respirators.
        - (2) Ultrasonic cleaners, clothes-washing machines, dishwashers, and clothes dryers have been specially adapted and successfully used for cleaning and drying respirators.

## Appendix M (continued)

- C. **Disinfection.** Disinfection is required when the respirator is used by more than one person.
- (1) Disinfection procedures recommended by NIOSH are:
- (a) Immerse the respirator body for two minutes in a 50 ppm chlorine solution (about 2 ml bleach to 1 liter of water). Rinse thoroughly in clean water and dry.
  - (b) Immerse the respirator body for two minutes in an aqueous solution of iodine (add 0.8 ml tincture of iodine in 1 liter water). The iodine is about 7 percent ammonium and potassium iodide, 45 percent alcohol and 48 percent alcohol and 48 percent water. Rinse thoroughly in clean water and dry.
- (2) Immersion times have to be limited to minimize damage to the respirator. The solutions can age rubber and rust metal parts. Caution must be taken to thoroughly rinse the respirator after cleaning and disinfection to prevent dermatitis.
- (3) An alternate method is to purchase a commercially prepared solution for disinfection/decontamination and follow the directions recommended by the manufacturer.

# 8th Month Meeting Agenda

Date\_\_\_\_\_

## Attendees:

|       |       |
|-------|-------|
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |

### 1. Review of previous months LTA's and Medical Accidents:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

### 2. New safety recommendations:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

### 3. Safety recommendations completed:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

### 4. Special projects

Facility compliance inspection for manlifts.

(See Appendix N). (Responsible person:\_\_\_\_\_).

Monthly inspection of emergency respirators. (Responsible person:\_\_\_\_\_).

### 5. Manlift Safety Training. (See page 8-2)

### 6. Meeting adjourned

## Training Guidelines for the Safe Use of Manlifts

Begin the training by commenting that while manlift accidents are not a frequent occurrence, they tend to generate very serious, and sometimes fatal injuries.

Point out that the majority of manlift accidents are caused by the following:

- Falls through the manlift floor openings;
- Using the manlift as a means to transport equipment or materials; and,
- Improper mounting or dismounting of manlift steps.

Review the following manlift safety procedures:

- Only trained and authorized personnel may use a manlift.
- Using a manlift to transport any kind of equipment of material is not permitted.

**Note:** Employees may carry only such tools as will fit into a belt tool pouch.

- Mount the manlift step at or just below the landing surface. Avoid mounting a manlift step by stepping up.
- Dismount the manlift when your step is at or just above the manlift landing. Avoid dismounting by stepping up after your step has passed below the landing area.
- Only one person per step is permitted.
- Face the belt and grasp the handhold with both hands.
- Use caution around the steps on the down-side of the manlift at the bottom landing.

Close the training by commenting that riding a manlift may seem to be a simple and uncomplicated workplace activity without much risk involved. Nothing could be further from the truth, and the prudent employee will conduct himself in accordance with the manlift safety procedures just discussed.

## Appendix N

### Manlifts 29CFR 1910.68

- (1) Are manlift landing spaces adjacent to the floor openings free from obstruction and kept clear at all times?

Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_

- (2) Is lighting not less than 5-foot candles provided at each floor landing at all times when the lift is in operation?

Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_

- (3) Are entrances and exits to the manlift at all floor landings guarded by a maze (staggered railing) or a handrail equipped with self-closing gates?

Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_

**Note:** Gates, if used, must open outward.

- (4) Is an emergency grab bar or rail and platform provided at the head pulley when the distance to the head pulley is over 6 feet above the top landing?

Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_

**Note:** If less than 6 feet, only a grab bar or rail is required to be provided to permit the rider to swing free should the emergency stops become inoperative.

- (5) Is a fixed emergency exit ladder accessible from both the “up” and “down” run for the entire travel of the manlift?

Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_

- (6) If a step is removed for repair or permanently removed, are the handholds immediately above and below it also removed?

Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_

- (7) If a handhold is temporarily or permanently removed, is the corresponding step and handhold for the opposite direction of travel removed?

## Appendix N (continued)

- (8) Are two automatic stop devices provided to cut off the power and apply the brake when a loaded step passes the upper terminal landing?

Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_

**Note:** The standard requires that one of the automatic stop devices be a split-rail switch mechanically operated by the step roller and located not more than 6 inches above the top terminal landing.

The second automatic stop device may consist of any of the following:

- Any split-rail switch placed 6 inches above and on the side opposite the first limit switch;
- An electronic device;
- A switch activated by a lever, rod, or plate, the latter to be placed on the “up” side of the head pulley so as to just clear the passing step.

- (9) Is the automatic stop reset so positioned that the person resetting it has a clear view of both the “up” and “down” runs of the manlift?

Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_

- (10) Does the initial limit stop device stop the loaded step before the step has reached a point 24 inches from the top terminal landing?

Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_

- (11) Is the manlift equipped with an emergency stop device (such as a rope) that is within easy reach of the ascending and descending runs of the belt?

Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_

- (12) Are the following instructional signs posted at each landing or stenciled on the manlift belt?

- Face the Belt.
- Use the Handholds.
- To Stop-Pull Rope.

Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_

## Appendix N (continued)

- (13) Is an illuminated sign stating “TOP FLOOR-GET OFF” posted not more than 2 feet above the top terminal landing?

Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_

**Note:** Signs must be in block letters not less than 2 inches in height. This sign must be located within easy view of an ascending passenger and not more than 2 feet above the top terminal landing.

- (14) Is the red warning light of not less than 40 watt rating provided immediately below the upper landing terminal and so located as to shine in the passenger’s face?

Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_

- (15) Is a sign stating “AUTHORIZED PERSONNEL ONLY” displayed at each landing?

Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_

- (16) Is the use of the manlift for the purpose of handling freight, packaged goods, pipe, lumber, or construction material of any kind prohibited?

Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_

**Note:** Tools carried in a belted tool pouch are permissible.

- (17) Are manlifts inspected by a competent, designated person at intervals of not more than 30 days?

Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_

- (18) Are limit switches checked weekly?

Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_

- (19) Are manlifts found to be unsafe removed from service until properly repaired?

Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_

**Note:** The periodic inspection must cover at least the following items:

## Appendix N (continued)

- Steps
- Step Fastenings
- Rails
- Rail Supports and Fastenings
- Rollers and Slides
- Belt and Belt Tension
- Handholds and Fastenings
- Floor Landings
- Guardrails
- Lubrication
- Limit Switches
- Warning Signs and Lights
- Illumination
- Drive Pulley
- Bottom (boot) Pulley and Clearance
- Pulley Supports
- Motor
- Driving Mechanism
- Brake
- Electrical Switches
- Vibration and Misalignment
- “Skip” up or down run when mounting step (indicating worn gears)

Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_

- (20) Is a certification record kept of each inspection which includes the date of inspection, the signature of the person who performed the inspection, and an identification (such as a serial number) of the manlift inspected?

Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_

For a comprehensive review of the regulatory requirements for manlifts, consult 29 CFR 1910.68.

# 9th Month Meeting Agenda

Date \_\_\_\_\_

## Attendees:

|       |       |
|-------|-------|
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |

### 1. Review of previous months LTA's and Medical Accidents:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

### 2. New safety recommendations:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

### 3. Safety recommendations completed:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

### 4. Special projects

Compliance audit for the facility lockout/tagout program.

(See Appendix O). (Responsible person:\_\_\_\_\_).

Monthly inspection of emergency respirators. (Responsible person:\_\_\_\_\_).

### 5. Confined Space Entry Training. (See pages 9-2, 9-3, 9-4, and 9-5)

### 6. Meeting adjourned

## Training Guidelines for Entry into Grain Storage Structures

OSHA revised 1910.272, Entry into bins, silos tanks and added a new compliance section, Section [h], Entry into flat storage structures. The revised rule became effective April 8, 1996.

Section [g], Entry into grain storage structures applies to all entry except entry through unrestricted ground level openings into flat storage structures in which there is no toxicity, flammability, or oxygen-deficiency or other atmospheric hazards, which is covered by Section [h] below.

Exception: Section [g][1][i] states that entry may be performed without a written permit if “the employer or the employers representative (who would otherwise authorize the permit) is present during the entire operation.”

Such as out-of-condition grain or recent fumigation.

The space must contain no less than 19.5% oxygen to be safe for entry. Natural ventilation requires that both the top access and the bottom access be open to achieve the flue effect.

- Advise employees that confined space entry in the grain handling industry is regulated by OSHA in 29CFR 1910.272, Sections [g] and [h]; and that both sections address the precautions and procedures to be followed to protect employees from:

- (1) Toxic environment (such as recent fumigation).
- (2) Oxygen deficiency (less than 19.5% oxygen).
- (3) Engulfment (buried in grain).
- (4) Any equipment that presents a danger to employees (mechanical, electrical, hydraulic and pneumatic).

- Inform employees that no confined space entry may be undertaken without management permission, and that a written entry permit is required. (See Appendix P).

- Review the following procedures and precautions:

- (1) Before entry is made, any kind of equipment (such as a reclaim auger) must be deenergized and rendered incapable of functioning by such means as lockout/tagout, blocking off, or disconnection.
- (2) Test the atmosphere in the space to be entered for combustible gases, vapors and toxic agents if there is reason to believe they may be present.
- (3) Before entry, test the atmosphere for oxygen content or pre-ventilate the space by way of forced-air ventilation or natural ventilation.

Refer to 29CFR 1910, Subpart Z.

Respirator selection should be determined by:  
 (1) The nature of the hazard;  
 (2) The level of exposure; and  
 (3) The length of exposure.  
 Respirator use must be in compliance with 1910.134, Respiratory Protection Program.

Not a safety belt!

The boatswain's chair must comply with 29CFR 1910, Subpart D.

**Note:** When an employee is standing or walking on a surface which is free from engulfment hazards, the lifeline or alternative means may be disconnected or removed.

- (4) Continue to ventilate if:
  - The oxygen content is less than 19.5%.
  - Or if combustible gas or vapor is in excess of 10% of the lower flammable limit.
  - Or if toxic agents are present in excess of allowable ceiling limits.
- (5) If ventilation will not render the space safe to enter, the entrant must wear an appropriate respirator.
- (6) Employees are not permitted to walk down grain to make it flow in or out of a grain storage structure.
- (7) Any time employees enter a grain storage structure at or above the level of stored grain, or when they walk on or stand in stored grain or in grain that is deep enough to pose an engulfment hazard, the following procedures apply:
  - (1) The entrant must wear a body harness with lifeline or;
  - (2) Be equipped with a boatswain's chair; and
  - (3) The lifeline must be so anchored and of sufficient strength so as to prevent the entrant from sinking further than waist-deep in the grain.

Section [g] [5] requires the employer to provide rescue equipment that is specifically suited for the space being entered.

Section [g] [5] further requires that the observer be trained in rescue methods, including notification methods for obtaining assistance.

Section [h] applies only to entry into flat storage structures through unrestricted ground level openings where there is no toxicity, flammability, oxygen-deficiency or other atmospheric hazards.

An alternative means to the lifeline is acceptable if the employer can demonstrate that such means will prevent the entrant from sinking further than waist-deep in the grain.

This could be done, for example, by clearing a space on the floor of the tank where an employee can stand and work without being exposed to either an engulfment hazard or a mechanical hazard. Another example of alternative protection is for the employee to simply lockout the reclaim equipment in order to prevent engulfment from occurring.

- (8) An outside observer is required and the observer must be equipped to provide assistance if needed. The observer must maintain communications between himself and the entrant at all times. Communications may be visual, voice, and/or signal line.
- (9) Emphasize that employees are never to enter a space underneath a bridging condition or where a grain buildup on the sides could fall and bury them.
- Inform employees that the OSHA definition of a flat storage structure is “a grain storage building or structure that will not empty completely by gravity, has an unrestricted ground level opening for entry, and must be entered to reclaim the residual grain using powered equipment or manual means”.
- Review the following procedures and precautions for entry into flat storage structures:
  - (1) Anytime an employee walks or stands on grain that is deep enough to pose an engulfment hazard, that employee must be equipped with a lifeline or alternative protection.
  - **Exception:** When an employee is walking or standing on a surface which is free from engulfment hazards, the lifeline or alternative protection may be disconnected or removed.
  - (2) Any time an employee stands or walks on grain that is deep enough to pose an engulfment hazard, all equipment which presents a danger to employ-

ees (such as an auger or other grain transport equipment) must be de-energized and either blocked-off, locked-out and tagged, disconnected or otherwise prevented from operating.

- (3) “Walking down grain” to make it flow in or out of a grain storage structure is not permitted at any time.
- (4) Employees are not permitted to be underneath a bridged condition or in any other location where an accumulation of grain on the sides could fall and engulf them.

## Appendix O

# The Control of Hazardous Energy (Lockout/Tagout) 29CFR 1910.147

### ENERGY CONTROL PROGRAM

- (1) Has the employer developed and documented a lockout/tagout program consisting of procedures and employee training for the control of hazardous energy?  
Yes\_\_\_No\_\_\_NA\_\_\_
- (2) If an energy isolating device (such as a manually operated electrical circuit breaker, a disconnect switch, or a manually operated switch) will not receive a lock, is a tagout system utilized?  
Yes\_\_\_No\_\_\_NA\_\_\_

**Note:** The standard permits the use of a tagout system alone if the employer can demonstrate that the use of a tagout system will provide employee protection equal to that provided by the utilization of a full lockout/tagout procedure. Additional means to be considered as part of the demonstration of full employee protection is the implementation of such safety measures as the removal of an isolating circuit element, blocking of a controlling switch, opening an extra disconnecting device, or the removal of a valve handle to reduce the likelihood of inadvertent energization.

**Note:** In the event of major replacement, repair, renovation or modification of machines or equipment, and when new machines or equipment are installed, such machines and/or equipment must be designed to accept a lockout device.

- (3) When a tagout device is used in lieu of a lockout device, is the tagout device attached at the same location where the lockout device would have been attached?  
Yes\_\_\_No\_\_\_NA\_\_\_

### PROTECTIVE MATERIALS AND HARDWARE

- (4) Are all of the lockout/tagout materials and hardware provided by the employer?  
Yes\_\_\_No\_\_\_NA\_\_\_
- (5) Are lockout and tagout devices singularly identified and used only for the purpose of lockout/tagout?  
Yes\_\_\_No\_\_\_NA\_\_\_

## Appendix O (continued)

- (6) Are lockout and tagout devices capable of withstanding the environment to which they are exposed and for the maximum period of time the exposure is expected to last?  
Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_
- (7) Are tagout devices constructed and printed so that exposure to weather conditions will not cause the tag to deteriorate or the message on the tag to become illegible?  
Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_
- (8) Are tags constructed so that they will not deteriorate when used in corrosive environments?  
Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_
- (9) Are lockout and tagout devices standardized within the facility by either color, shape, or size or any combination of the three, and is the print on tagout devices standardized as to print and format?  
Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_
- (10) Are lockout devices substantial enough to prevent removal without the use of excessive force?  
Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_
- (11) Are tagout attachment devices substantial enough to prevent inadvertent or accidental removal?  
Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_

**Note:** Tagout attachment devices must meet the following criteria:

- (a) A non-reuseable type;
  - (b) Attachable by hand;
  - (c) Self-locking and non-releasable with a minimum unlocking strength of no less than 50 pounds; and
  - (d) Has the general design and basic characteristics of being at least equivalent to a one-piece, all-environment-tolerant nylon cable tie.
- (12) Do lockout and tagout devices indicate the identity of the employee applying the device(s)?  
Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_

## Appendix O (continued)

(13) Do tagout devices warn against machine or equipment energization?

Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_

Note: Tagout devices must include a legend such as the following: DO NOT START, DO NOT OPEN, DO NOT CLOSE, DO NOT ENERGIZE, DO NOT OPERATE.

### PERIODIC INSPECTION

(14) Does the employer conduct an inspection of the energy control program at least annually?

Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_

(15) Is the inspection conducted by an authorized employee other than the authorized employee using the energy control procedure being inspected?

Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_

**Note:** The intent of the standard is that an authorized employee is not permitted to inspect himself.

(16) Is the inspection of the energy control procedure designed to identify and correct deviations and/or inadequacies in the procedure?

Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_

(17) When lockout is used for energy control, does the periodic inspection include a review between the inspector and the appropriate authorized employee(s) of that employee's responsibilities under the procedure being inspected?

Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_

(18) When tagout is used for energy control, does the periodic inspection include a review between the inspector and each authorized and affected employee(s) of that employee's responsibilities under the procedure being inspected?

Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_

## **Appendix O (continued)**

(19) Does the employer certify in writing that the periodic inspection of the energy control procedure has been conducted and include in the certification the following:

(a) Identification of the machine or equipment on which the procedure was being used?

Yes\_\_\_No\_\_\_NA\_\_\_

(b) The date of the inspection?

Yes\_\_\_No\_\_\_NA\_\_\_

(c) The employee included in the inspection?

Yes\_\_\_No\_\_\_NA\_\_\_

(d) Name of the person performing the inspection?

Yes\_\_\_No\_\_\_NA\_\_\_

### **TRAINING AND COMMUNICATION**

(20) Does training for authorized and affected employees include at least the following?

(a) Authorized employees are trained in the recognition of all applicable hazardous energy sources, the type and magnitude of the energy in the workplace, and the methods and means necessary for energy isolation and control?

Yes\_\_\_No\_\_\_NA\_\_\_

(b) Affected employees are instructed in the purpose and use of the energy control procedure?

Yes\_\_\_No\_\_\_NA\_\_\_

(c) Other employees whose work is or may be in an area where energy control procedures may be utilized are instructed about the procedure, and about the prohibition relating to attempts to restart machines or equipment which are locked out or tagged out?

Yes\_\_\_No\_\_\_NA\_\_\_

(d) Employees are informed that tags are essentially warning devices and do not provide the physical restraint that is provided by a lock?

Yes\_\_\_No\_\_\_NA\_\_\_

**Appendix O**  
**(continued)**

- (e) Employees are informed that when a tag is attached to an energy isolating device, it is not to be removed without authorization from the authorized employee responsible for it, and is never to be bypassed, ignored, or otherwise defeated?

Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_

- (21) Are tags legible and understandable by all authorized employees, affected employees, and all other employees whose work operations may be affected by a tagout?

Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_

- (22) Is retraining provided for all authorized and affected employees under the following conditions:

- (a) Whenever there is a change in their job assignments?

Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_

- (b) Whenever there is a change in machines, equipment or processes that presents a hazard?

Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_

- (c) When there is a change in the energy control procedure?

Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_

- (d) Whenever the employer has reason to believe that there are deviations from or inadequacies in an employee's knowledge or use of the energy control procedures?

Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_

## Appendix P

### Sample Entry Permit for Grain Storage Structures

Is entry necessary? Yes\_\_\_\_No\_\_\_\_

Entry location \_\_\_\_\_ Entry Date \_\_\_\_\_

Reason for entry \_\_\_\_\_

#### Special Precautions

- Have employees been instructed that “walking down grain” and similar practices are prohibited?  
Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_
- Have employees been instructed that entry underneath a bridging condition or in any other location where an accumulation of grain on the sides or elsewhere could fall and bury them is prohibited?  
Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_

#### Entry Procedures

- (1) Hazardous mechanical, electrical, hydraulic and pneumatic equipment de-energized?  
Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_
- (2) Hazardous mechanical, electrical, hydraulic and pneumatic equipment either removed or isolated by disconnection, lockout/tagout, blocking off, or other means of equipment isolation?  
Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_
- (3) Atmosphere tested for combustible gases, vapors and toxic agents?  
Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_
- (4) Atmosphere tested for oxygen content?  
(Oxygen content must be 19.5 or above).  
Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_

## Appendix P (continued)

- (5) Natural air ventilation and/or forced air ventilation provided before and during entry.

Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_

- (6) Respiratory protection equipment required?

Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_

- (7) Body harness and lifeline, or boatswain's chair provided and used for:  
Entry at a level above the level of stored grain: or

Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_

Whenever an employee walks or stands on or in stored grain that is deep enough to pose an engulfment hazard?

Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_

- (8) Is the lifeline so positioned and strong enough so as to prevent the employee from sinking further than waist-deep in the grain?

Yes\_\_\_\_No\_\_\_\_Na\_\_\_\_

- (9) Observer stationed outside and equipped to provide assistance:

Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_

Approved lighting.

Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_

Ladder(s).

Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_

Emergency respirator(s).

Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_

Hoist and lifeline.

Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_

First aid supplies.

Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_

Communications equipment.

Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_

Observer certified in first aid and CPR.

Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_

Other\_\_\_\_\_

Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_

## Appendix P (continued)

(10) Communications maintained between observer and entrant:

|              |                  |
|--------------|------------------|
|              | Yes___No___NA___ |
| Voice.       | Yes___No___NA___ |
| Visual.      | Yes___No___NA___ |
| Signal line. | Yes___No___NA___ |
| Other_____   | Yes___No___NA___ |

(11) Observer trained in emergency rescue procedures. Yes\_\_\_No\_\_\_NA\_\_\_

(12) Procedures to obtain additional assistance established.

Yes\_\_\_No\_\_\_NA\_\_\_

### Procedures for Entry Into Flat Storage Structures

- **Note:** The following procedures apply only to entry into flat storage structures in which there are no toxicity, flammability, oxygen-deficiency or other atmospheric hazards.

(1) Employees equipped with a lifeline or an alternative means of protective?

Yes\_\_\_No\_\_\_NA\_\_\_

(2) All equipment (such as a grain auger) de-energized and either disconnected, locked out and tagged, blocked-off or otherwise prevented from operating?

Yes\_\_\_No\_\_\_NA\_\_\_

Conditions are considered acceptable for this entry and entry is authorized.

---

Entry Supervisor

# 10th Month Meeting Agenda

Date\_\_\_\_\_

## Attendees:

|       |       |
|-------|-------|
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |

### 1. Review of previous months LTA's and Medical Accidents:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

### 2. New safety recommendations:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

### 3. Safety recommendations completed:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

### 4. Special projects

Facility electrical compliance inspection.

(See Appendix Q). (Responsible person:\_\_\_\_\_).

Monthly inspection of emergency respirators. (Responsible person:\_\_\_\_\_).

### 5. Operator Training for Powered Industrial Trucks (See pages 10-2, 10-3, 10-4, 10-5, and 10-6)

### 6. Meeting adjourned

## OSHA Training Requirements for Operators of Powered Industrial Trucks

OSHA requires training for the operators of fork trucks, tractors, platform lift trucks, motorized hand trucks, and other specialized industrial trucks powered by electrical motors or internal combustion engines.

Below are the necessary portions of 29 CFR 1910.178 for the training of operators of powered industrial trucks. Included are Section (l) Operator training; Section (m) Truck operations; Section (n) Traveling; Section (o) Loading; and Section (p) Operation of the truck. The trainer should furnish each trainee with a copy to facilitate this training presentation.

- (1) *Operator training.* Only trained and authorized operators shall be permitted to operate a powered industrial truck. Methods shall be devised to train operators in the safe operation of powered industrial trucks.
- (m) *Truck operations.*
  - (1) Trucks shall not be driven up to anyone standing in front of a bench or other fixed object.
  - (2) No person shall be allowed to stand or pass under the elevated portion of any truck, whether loaded or empty.
  - (3) Unauthorized personnel shall not be permitted to ride on powered industrial trucks. A safe place to ride shall be provided where riding of trucks is authorized.
  - (4) The employer shall prohibit arms or legs from being placed between the uprights of the mast or outside the running lines of the truck.
  - (5)
    - (i) When a powered industrial truck is left unattended, load engaging means shall be fully lowered, controls shall be neutralized, power shall be shut off, and brakes set. Wheels shall be blocked if the truck is parked on an incline.
    - (ii) A powered industrial truck is unattended when the operator is 25 ft. or more away from the vehicle which remains in his view, or whenever the operator leaves the vehicle and it is not in his view.
    - (iii) When the operator of an industrial truck is dis-

mounted and within 25 ft. of the truck still in his view, the load engaging means shall be fully lowered, controls neutralized, and the brakes set to prevent movement.

- (6) A safe distance shall be maintained from the edge of ramps or platforms while on any elevated dock, or platform or freight car. Trucks shall not be used for opening or closing freight doors.
- (7) Brakes shall be set and wheel blocks shall be in place to prevent movement of trucks, trailers, or railroad cars while loading or unloading. Fixed jacks may be necessary to support a semitrailer during loading or unloading when the trailer is not coupled to a tractor. The flooring of trucks, trailers, and railroad cars shall be checked for breaks and weakness before they are driven onto.
- (8) There shall be sufficient headroom under overhead installations, lights, pipes, sprinkler system, etc.
- (9) An overhead guard shall be used as protection against falling objects. It should be noted that an overhead guard is intended to offer protection from the impact of small packages, boxes, bagged material, etc., representative of the job application, but not to withstand the impact of a falling capacity load.
- (10) A load backrest extension shall be used whenever necessary to minimize the possibility of the load or part of it from falling rearward.
- (11) Only approved industrial trucks shall be used in hazardous locations.
- (12) Whenever a truck is equipped with vertical only, or vertical and horizontal controls elevatable with the lifting carriage or forks for lifting personnel, the following additional precautions shall be taken for the protection of personnel being elevated.
  - (i) Use of a safety platform firmly secured to the lifting carriage and/or forks.
  - (ii) Means shall be provided whereby personnel on

the platform can shut off power to the truck.

(iii) Such protection from falling objects as indicated necessary by the operating conditions shall be provided.

(13) [Reserved].

(14) Fire aisles, access to stairways, and fire equipment shall be kept clear.

(n) *Traveling.* (1) All traffic regulations shall be observed, including authorized plant speed limits. A safe distance shall be maintained approximately three truck lengths from the truck ahead, and the truck shall be kept under control at all times.

(2) The right of way shall be yielded to ambulances, fire trucks, or other vehicles in emergency situations.

(3) Other trucks traveling in the same direction at intersections, blind spots, or other dangerous locations shall not be passed.

(4) The driver shall be required to slow down and sound the horn at cross aisles and other locations where vision is obstructed. If the load being carried obstructs forward view, the driver shall be required to travel with the load trailing.

(5) Railroad tracks shall be crossed diagonally wherever possible. Parking closer than 8 feet from the center of railroad tracks is prohibited.

(6) The driver shall be required to look in the direction of, and keep a clear view of the path of travel.

(7) Grades shall be ascended or descended slowly.

(i) When ascending or descending grades in excess of 10 percent, loaded trucks shall be driven with the load upgrade.

(ii) [Reserved]

(iii) On all grades the load and load engaging means

shall be tilted back if applicable, and raised only as far as necessary to clear the road surface.

- (8) Under all travel conditions the truck shall be operated at a speed that will permit it to be brought to a stop in a safe manner.
  - (9) Stunt driving and horseplay shall not be permitted.
  - (10) The driver shall be required to slow down for wet and slippery floors.
  - (11) Dockboard or bridgeplates shall be properly secured before they are driven over. Dockboard or bridgeplates shall be driven over carefully and slowly and their rated capacity never exceeded.
  - (12) Elevators shall be approached slowly, and then entered squarely after the elevator car is properly leveled. Once on the elevator, the controls shall be neutralized, power shut off, and the brakes set.
  - (13) Motorized hand trucks must enter elevator or other confined areas with load end forward.
  - (14) Running over loose objects on the roadway surface shall be avoided.
  - (15) While negotiating turns, speed shall be reduced to a safe level by means of turning the hand steering wheel in a smooth, sweeping motion. Except when maneuvering at a very low speed, the hand steering wheel shall be turned at a moderate, even rate.
- (o) *Loading.* (1) Only stable or safely arranged loads shall be handled. Caution shall be exercised when handling off-center loads which cannot be centered.
  - (2) Only loads within the rated capacity of the truck shall be handled.
  - (3) The long or high (including multiple-tiered) loads which may affect capacity shall be adjusted.
  - (4) Trucks equipped with attachments shall be operated as partially loaded trucks when not handling a load.

- (5) A load engaging means shall be placed under the load as far as possible; the mast shall be carefully tilted backward to stabilize the load.
- (6) Extreme care shall be used when tilting the load forward or backward, particularly when high tiering. Tilting forward with load engaging means elevated shall be prohibited except to pick up a load. An elevated load shall not be tilted forward except when the load is in a deposit position over a rack or stack. When stacking or tiering, only enough backward tilt to stabilize the load shall be used.
- (p) *Operation of the truck.* (1) If at any time a powered industrial truck is found to be in need of repair, defective, or in any way unsafe, the truck shall be taken out of service until it has been restored to safe operating condition.
- (2) Fuel tanks shall not be filled while the engine is running. Spillage shall be avoided.
- (3) Spillage of oil or fuel shall be carefully washed away or completely evaporated and the fuel tank cap replaced before restarting engine.
- (4) No truck shall be operated with a leak in the fuel system until the leak has been corrected.
- (5) Open flames shall not be used for checking electrolyte level in storage batteries or gasoline level in fuel tanks.

## Appendix Q

### Electrical Compliance

**Note:** Subpart-S Electrical, of 29CFR 1910 begins with 1910.301 Introduction and continues through 1910.339 Definitions. The self-audit below is designed to call attention to those areas of electrical compliance that regularly appear on OSHA citations issued against grain handling facilities and in no way represents a comprehensive electrical compliance audit. For a complete review of the regulatory requirements for electrical compliance, consult 29CFR Subpart-S in its entirety.

- (1) Are electrical switches legibly marked to identify their purpose?

Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_

- (2) Are electrical installations accessible to only trained and qualified persons and those installations having walls, vaults, or cages protected against unauthorized entry.

Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_

- (3) Is sufficient space provided and maintained around electrical equipment to permit ready access and safe operation?

Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_

- (4) Are signs posted warning of high voltage where other than trained and qualified persons might come in contact with live parts?

Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_

- (5) Are metallic cable and conduit systems properly grounded?

Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_

- (6) Are portable electric tools and appliances grounded or double insulated?

Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_

- (7) Are flexible cords and cables protected from accidental damage especially where they pass through doorways or other pinch points?

Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_

- (8) Is the use of flexible cords to supply power to fixed electrical equipment prohibited?

Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_

## Appendix Q (continued)

- (9) Is electrical equipment and wiring methods in 11G1 and 11G11 classified areas intrinsically safe or approved for such locations?

Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_

**Note:** See definitions of Class 11, Group G, Division 1 and Division 11 below:

CLASS 11, DIVISION 1. A Class 11, Division location is a location: (1) in which combustible dust is in the air under normal operating conditions in quantities sufficient to produce explosive or ignitable mixtures; or (2) where mechanical failure or abnormal operation of machinery or equipment might cause such explosive or ignitable mixtures to be produced, and might also provide a source of ignition through simultaneous failure of electric equipment, operation of protection devices, or from other causes; or (3) in which combustible dusts of an electrically conductive nature may be present in hazardous quantities.

CLASS 11 DIVISION 2. A Class 11 Division 2 location is a location where combustible dust is not normally in the air in quantities sufficient to produce explosive or ignitable mixtures, and dust accumulations are normally insufficient to interfere with the normal operation of electrical equipment or other apparatus, but combustible dust may be in suspension in the air as a result of infrequent malfunctioning of handling or processing equipment and where combustible dust accumulations on, in, or in the vicinity of the electrical equipment may be sufficient to interfere with the safe dissipation of heat from electrical equipment or may be ignitable by abnormal operation or failure of electrical equipment.

- (10) In geographical locations where lighting disturbance is prevalent and where power is supplied from overhead lines, are wiring systems in Class 11 locations suitably protected against high-voltage surges?

Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_

- (11) Are switches, circuit breakers, motor controllers, and fuses that are located in hazardous classified areas (11G1 or 11G11) provided with dust-ignition-proof enclosures?

Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_

- (12) Are all electrical enclosures located in hazardous classified areas (11G1 or 11G11) maintained in a condition that prevents the entrance of dust into the enclosures?

Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_

- (13) Is conduit in hazardous classified areas (11G1 or 11G11) threaded and made wrench tight?

Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_

**Appendix Q**  
**(continued)**

(14) Are heat producing electrical enclosures kept clean and free of layered dust?

Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_

(15) Are all energized switching and control parts enclosed in effectively grounded metal cabinets or enclosures?

Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_

(16) Have all employees who work on electrical equipment received the training in “Safety-Related Work Practices” as set forth in 29CFR 1910.332 and 1910.333?

Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_

(17) Are only trained and qualified persons permitted to work on electrical equipment?

Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_

# 11th Month Meeting Agenda

Date \_\_\_\_\_

## Attendees:

|       |       |
|-------|-------|
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |

### 1. Review of previous months LTA's and Medical Accidents:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

### 2. New safety recommendations:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

### 3. Safety recommendations completed:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

### 4. Special projects

Facility compliance audit for Eye & Face, Head, Foot, and Hand Personal Protective Equipment. (See Appendix R). (Responsible person:\_\_\_\_\_).

Monthly inspection of emergency respirators. (Responsible person:\_\_\_\_\_).

### 5. Portable Ladder Safety Training (See page 11-2).

### 6. Meeting adjourned

## Training Guidelines for the Safe Use of Portable Ladders

- (1) Use the 4 to 1 rule wherever possible. (For every foot of height, place the bottom of the ladder 1 foot from the base of the structure or object being climbed).
- (2) Place the ladder so as to have a secure footing. If a secure footing is not available, have someone hold the ladder in place.
- (3) Be sure the top rest is sufficient in strength to support the entire ladder load.
- (4) Never place a ladder on any base, such as a box or table, to obtain extra height.
- (5) All rung ladders should be equipped with non-slip bases. Note: Non-slip bases are not intended to be a substitute for care in ladder placing, lashing, or manually holding a ladder that is being used upon oily, metal, concrete, or slippery surfaces.
- (6) Do not use a ladder to gain access to a roof unless the top of the ladder extends at least 3 feet above the point of support.
- (7) Face the ladder and use both hands for climbing or descending.
- (8) Carry only such tools that will fit in a belt pouch. Other tools may be raised or lowered in a tool cradle.
- (9) **IMPORTANT:** During usage, body balance is vital to the ladder user's safety and the following two precautions should be strictly observed:
  - The belt buckle of the ladder user should never extend outside the rails of the ladder: and
  - The belt buckle of the ladder user should never be above the last step or rung of the ladder.

## Appendix R

### Personal Protective Equipment

#### 29CFR 1910.132 General Requirements

- (1) Has a workplace hazard assessment been conducted to determine if hazards are present, or likely to be present, which necessitate the use of personal protective equipment (PPE)

Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_

**Note:** If workplace hazards are present, or likely to be present, the employer must select and have each affected employee use PPE that will protect the employee(s) from the identified hazard(s).

- (2) Have PPE selection decisions been communicated to affected employees?

Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_

- (3) Does the PPE selected properly fit each employee who wears it?

Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_

**Note:** Defective or damaged PPE may not be used.

- (4) Has local management verified, in writing, that the required workplace hazard assessment has been performed?

Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_

**Note:** The written certification must identify the workplace evaluated; the person certifying that the evaluation has been performed; the date(s) of the hazard assessment; and, the identification of the document as the certification of hazard assessment.

- (5) Have affected employees been trained?

Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_

## Appendix R (continued)

**Note:** PPE training must include at least the following:

- When PPE is necessary;
- What PPE is necessary;
- How to put PPE on, take it off, adjust, and wear it;
- The limitations of PPE; and
- The proper care, maintenance, useful life and disposal of PPE.

Affected employees must be able to demonstrate an understanding of the training specified above before being allowed to use PPE.

Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_

(6) Is retraining provided to affected employees under the following conditions?

- Changes in the workplace render previous training obsolete; or
- Changes in the types of PPE to be used render previous training obsolete; or
- Inadequacies in an affected employee's knowledge or use of assigned PPE indicate that the employee has not retained the requisite skill.

Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_

(7) Has local management verified, in writing, that affected employees have received and understood PPE training and retraining as required by (5) and (6) above?

Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_

**Note:** The written certification must include the name of each employee trained, the dates of training, and language that identifies the document as a PPE training certification.

**Appendix R**  
**(continued)**

**Eye And Face Protection**  
**29CFR 1910.133**

- (1) Is each affected employee required to use appropriate eye to face protection when exposed to eye and face hazards from flying particles, molten metal, liquid chemicals, acids or caustic liquids, chemical gases or vapors, or potentially injurious light radiation?

Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_

- (2) Is each affected employee required to use eye protection that provides side protection when there is a hazard from flying objects?

Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_

**Note:** Detachable side protectors are acceptable.

- (3) Is each affected employee who wears prescription lenses required to wear eye protection that incorporates the prescription in its design, or wear eye protection over the prescription lenses without disturbing the proper position of the prescription lenses or the protective lenses.

Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_

- (4) Is eye and face protection marked so as to clearly identify the manufacturer?

Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_

- (5) Is each affected employee equipped with filter lenses that have a shade number appropriate for the work being performed for protection from injurious light radiation?

Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_

**Appendix R  
(continued)**

**Head Protection  
29CFR 1910.135**

- (1) Do affected employees wear protective helmets when working in areas where there is a potential for injury to the head from falling objects?

Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_

- (2) Are protective helmets, that are designed to reduce electrical shock, worn by affected employees when near exposed electrical conductors which could contact the head?

Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_

**Foot Protection  
29CFR 1910.136**

- (1) Do affected employees wear protective footgear when working in areas where there is a danger of foot injuries due to falling and rolling objects, or objects piercing the sole, and where the feet are exposed to electrical hazards?

Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_

**Hand Protection  
29CFR 1910.238**

- (1) Does the employer select and require affected employees to wear hand PPE when the hands are exposed to such hazards as skin absorption of harmful substances; severe cuts or lacerations; severe abrasions; punctures; chemical burns; thermal burns; and harmful temperature extremes?

Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_

- (2) Does the employer base the selection of hand PPE on the following criteria;

- The performance characteristics of the hand protection relative to the task(s) to be performed; and
- The hazards and potential hazards identified?

Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_

# 12th Month Meeting Agenda

Date \_\_\_\_\_

## Attendees:

|       |       |
|-------|-------|
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |

### 1. Review of previous months LTA's and Medical Accidents:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

### 2. New safety recommendations:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

### 3. Safety recommendations completed:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

### 4. Special projects

Compliance inspection of hand powered platform manlifts.

(See Appendix S). (Responsible person:\_\_\_\_\_).

Monthly inspection of emergency respirators. (Responsible person:\_\_\_\_\_).

### 5. 29CFR 1910.272 - Housekeeping Training. (See page 12-2).

### 6. Meeting adjourned

## Training Guidelines for 29CFR 1910.272 - Housekeeping

29CFR1910.272, Section (e) Training, requires that employees be trained in “housekeeping procedures”.

Priority housekeeping areas must include at least the following:

- (A) Floor areas within 35 feet of inside bucket elevators;
- (B) Floors of enclosed areas containing grinding equipment; and
- (C) Floors of enclosed areas containing grain dryers located inside the facility.

- Furnish each employee with a copy of the facility written housekeeping program.
- Start the training by commenting that the two major control factors in preventing a grain dust explosion are ignition source control and the control of fugitive grain dust accumulations.
- Using the facility written housekeeping program as a guide, review the priority housekeeping areas first:
  - (1) Location(s);
  - (2) Cleaning frequency; and
  - (3) The responsible person(s).
- Advise employees that fugitive dust accumulations in priority areas must not be allowed to exceed 1/8 inch.
- Now review the non-priority housekeeping areas:
  - (1) Location(s);
  - (2) Cleaning frequency; and
  - (3) Responsible person(s).
- Comment on the importance of cleaning ledges, equipment and walls and not just the floors.
- Inform employees that the use of compressed air for cleaning is only permitted when all potential ignition sources in the cleaning area are shut down or removed.
- Cover the procedures for removing grain spills.
- Instruct employees to report any problems that may interrupt the cleaning schedule.

## Appendix S

### ANSI/ASME A17.1-1993 Hand Powered Platform Manlifts

- (1) Is the use of manlifts restricted to employees and authorized persons who are trained in their use?

Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_

- (2) Is the area adjoining manlift floor openings kept clear and adequately lighted at all times?

Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_

- (3) Is a sign "Authorized Personnel Only" posted at each landing at approximately eye level?

Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_

- (4) Is the clearance between the manlift platform and the landing (sill clearance) not more than 1-1/2 inch nor less than 3/4 inch?

Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_

- (5) Are manlift access openings guarded by semi-automatic vertical sliding gates or by self-closing swing gates?

Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_

**Note:** Gates must be equipped with a top crossmember not less than 42 inches above the floor, a bottom crossmember not more than 1/2 inch above the floor, and with at least one intermediate crossmember. The gates must be placed within 4 inches horizontally from the landing sill.

- (6) Are all unused sides of the shaftway enclosed to a height of at least 8 feet above the floor?

Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_

- (7) Is a fixed ladder installed in the shaftway and accessible from the manlift at any point within its travel?

Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_

## Appendix S (continued)

- (8) Is the car enclosed to a height of at least 42 inches on all sides not used for entrances

Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_

- (9) Are car frames and platforms constructed of metal or sound-seasoned wood designed with a safety factor of not less than four (4) for metal construction and six (6) for wood construction based on the rated load uniformly distributed?

Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_

**Note:** Connections between the frame members of the car frame and platform must be riveted, bolted, or welded. Glass may not be used on any part of the frame or enclosure.

- (10) Is the practice of one car counterbalancing another car prohibited?

Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_

- (11) Are cars equipped with a car safety device attached to the top or bottom of each car frame capable of stopping and sustaining the car and its rated load if the suspending cables become slack or break?

**Note:** The car safety device is not required to be operated by a speed governor and may be of the instantaneous type operated as a result of the breaking or slackening of the suspension members.

- (12) When car travel exceeds 40 feet, are properly guarded compensating cables or chains provided?

Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_

- (13) Does the rated load capacity not exceed 300 pounds?

Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_

- (14) Is only one person permitted to ride the manlift at a time?

Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_

## Appendix S (continued)

(15) Is the movement of freight or materials on the manlift prohibited?

Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_

(16) Is the counterweight fully enclosed for the full length of its travel except for an inspection section at the lower limit of travel?

Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_

**Note:** The inspection section must be only large enough to inspect the fastenings and be covered with a screen or mesh which will reject a two-inch ball.

(17) Is shaftway illumination adequate to enable the operator to have a full view of all obstructions and hazards?

Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_

(18) Are cars provided with a manual dead-man type brake which will operate in either direction of travel and is capable of stopping and holding the car with its rated load at any point in its limit of travel?

Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_

(19) Are overhead beams in good condition?

Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_

(20) Are car and counterweight fastenings not of the U-bolt type?

Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_

**Note:** Clamps must be drop forged and both members of the clamps provided with seats conforming to the lay of the rope. Ropes must be passed around metal thimbles.

(21) Is the operating rope guarded where it passes through the car overhead to prevent entry of hands?

Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_

## Appendix S (continued)

- (22) Is a separate locking device, independent of the manual brake, that will hold the car and its rated load at each landing provided?

Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_

**Note:** The locking device may be either manual or automatic.

- (23) Are bumper springs capable of absorbing the energy of the car with a capacity load provided at the lowest limit of travel?

Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_

**Note:** A steel, belted radial tire, size G-15, is acceptable.

- (24) If weights are used to counterbalance the car, is a suitable box or container mounted firmly in the car to constrain such weights?

Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_

- (25) Is a car gate or guardrail 42 inches from the car floor capable of withstanding a lateral pressure of 250 lbs. provided?

Yes\_\_\_\_No\_\_\_\_NA\_\_\_\_

For a comprehensive review of the regulatory requirements for Hand Powered Manlifts, consult ANSI/ASME A17.1-1993.