

## Safety Inspection Guides

Pre inspection discussion:

1. Safety concerns...what is the most unsafe job
2. How is the department attitude towards safety, in general
3. Is there a lock-out/tag-out program and is it used.
4. Are training records and accident records kept in the dept.
5. Are there confined space issues, haz-mat issues, etc.

Telescope inspection: Look for, loose wires, possible pinch points, lock-out tag-out devices, oil leaks, cryogenic safety (proper connectors, gloves, long sleeves, face masks, etc), telescope movement lights or sirens, fall protection devices, including tie off points, guard rails. Also look or listen for extended loud noise levels, flammable liquids exposed, unsafe ladders, access issues, control issues, sharp points or corners, unguarded belts or pulleys, etc.

Machine shop inspection: Look for unguarded belts and pulleys, loose wires, machines too close to each other, bad oil leaks, housekeeping, fluid disposal, two hand control buttons, emergency shut off switches, Safety glass availability and use by operators and visitors, access to electrical panels, evidence of lock-out/tag-out, air nozzles over 35 lbs for cleaning, slippery conditions, availability of first aid kit and telephone. Check steel storage racks, parts bins and general condition of machines and equipment. Are hazardous metals being machined, if so are there proper precautions. Check grinding wheels for aluminum build up, and proper spacing of tool rests and eye shields.

Vehicle inspection, including cars, trucks, fork lifts, cranes, snow plows, tractors, etc: Check overall appearance and condition, check

brakes, lights, turn signals, horns and back up warning systems. Look for worn tires, missing parts, crane inspection certificates, worn, leaking, or gashed hydraulic hoses. Be sure that chains and lifters are in good shape on the cranes. Do road graders and other highway vehicles have slow moving warning signs or revolving lights that work? Do all vehicles have fire extinguishers, and small safety kits with first aid items.

Fall Protection: Are there proper tie off points for employees working at heights? Does each employee have his or her own full body harness and is there a record of each inspection of each harness. Are there records of inspections of other fall protection equipment? Have employees taken training and is there a record?

Housekeeping: Are floors maintained in a clean, safe dry manner with no holes or protrusions such as nails, and no slippery areas, and no tripping hazards such as extension cords? Is equipment stored properly, at least 18 inches from the ceiling in sprinklered areas and not in aisles. Are eating areas and bathrooms cleaned and sanitized on a regular basis?

Electrical: Look for blocked electrical panels and shut offs, extension cords being used where permanent wiring should be used, flexible electric cords without strain relief. Are all boxes, feeder and branch circuits identified at the outlet and in the panel box. Are boxes and /or breakers equipped with lock holders for lockout/tagout? Are cords or wires run through walls and not in conduit?

Compressed Gas: Look for cylinders to be chained to walls or in approved standing containers. Are cylinders marked properly and do they have safety relief valves. Is hydrogen being used and if so is it

in a well ventilated area and being kept at a safe distance from flammable gases and people?

**Welding Areas:** Welding should only be done in a well ventilated area, away from flammables. Only approved welding equipment, in good condition should be used and it should have anti-flash back valves installed. All welders should have been trained and records kept. Cylinders must be kept in approved carts or containers. Acetylene cylinders shall be stored with the valve end up and all cylinders that are not in use shall have valve protection caps in place, especially when being moved. All cylinder valves should be closed when moving cylinders and when work is finished and the welder has left the area. Proper safety equipment including gloves and welding glasses or helmets must be used and in good, safe condition. Precaution must be taken to assure that visitors to a welding area cannot look at the flash or be exposed to it without proper equipment.

**Signs and Labels:** Are there proper exit signs, equipment warning signs, chemical labels and in use signs, fire extinguisher location signs, Safety glass warning signs, etc.

**Fire Safety:** Look for current inspection stickers on fire extinguishers. Check for accumulations of trash and flammable materials, weeds and debris. Is there a fire alarm system, smoke detectors, and, if there is a furnace, are there carbon monoxide detectors. Are routine tests for fire apparatus and fire drills performed and documented? Is there training on fire extinguishers and lists of approved persons to handle extinguishers.

**Fork Lift and Crane safety:** Check equipment, approved certifications, approved operator lists, and look for leaking hydraulic hoses or cylinders. Is there an approved man lift or safety platform

with guard rails and can it be secured to the fork lift mast. Check the fork pins and stops, cowling, body cage, and tires for wear. Are the forks in the lowest position when the fork lift is parked and not in use?

Security: Check for fences, locks on doors, windows etc. Are there after-hours workers, and good parking lot lights? Is there an alarm system and does it go to police directly.

Stairs and handrails: Are the stairs painted to indicate a level change? Are handrails located at the right height?

Ladders: Check all ladders for proper feet, damage, Osha approval in electrical shop, etc. In general, wood ladders should not be painted because paint can mask problems.

Portable Hoists and winches: Look for current certification, wire rope connected properly, cable spooling properly, and see if there are weight limits marked. There should be an inspection log for the hoist. Check that associated slings, chains and web straps are in good condition and have regular inspection.

Fuel tanks: Are there barricades, proper signage, vents, and emergency shut off valves? If it is underground is it due for removal, or is it a double tank? If it is above ground, is it a double tank or is it located in a spillproof container?

Used oil management: All telescopes use oil and grease in big quantities and the used oils must be disposed of properly. Look for a plan and good records for doing this. Also check that new oil and greases are stored properly as are old oils in drums in spillproof containers.

Chemicals: Look for proper storage of chemicals and other flammable compounds. There should be specially made flammable liquid cabinets for oil based paints, thinners and solvents. Are there persons trained to handle chemicals. Is there an MSDS book in the vicinity of chemical usage and is there a policy to get current MSDS from the vendor selling the product to the person using it and finally into the book located in the vicinity of use?

Respiratory Protection: Look for areas that might require respiratory protection and check to see that respirators are available and being fitted and used properly.

Lasers: Are lasers being used and if so what class are the lasers and are there proper protections in place for the class of laser. Check for a laser safety program, that deals with who is authorized to use lasers and where.

General: Is asbestos an issue and is there a management plan for dealing with it? Are there workers who must go in confined spaces and if so is there a program for safety? If it is in a remote place, are there persons always available who are trained in first aid, or are EMT's. Check for first aid cabinets in all areas where there are likely to be cuts and injuries, such as machine shops, shipping areas, or repair facilities

#### References:

|                          |                 |
|--------------------------|-----------------|
| Abrasive wheels          | 29 CFR 1910.215 |
| Compressed gases         | .101, .252      |
| Electrical installations | .301            |

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|-------------------------------|---------------|
| Emergency lights              | .261          |
| Exits and egress              | .37           |
| Fire extinguishers            | .157          |
| Hazard communication          | .1200         |
| Hoisting equipment            | .66, .179     |
| Housekeeping                  | .141          |
| Ladders                       | .25, .26, .27 |
| Lockout/Tagout                | .147          |
| Machine guarding              | .211, .211    |
| Manlifts                      | .68           |
| Personal protective equipment | .132-.137     |
| Powered industrial trucks     | .178          |
| Pneumatic tools               | .243          |
| Signs                         | .145+         |
| Tanks and storage             | .106          |
| Welding                       | .252          |
| Woodworking machines          | .213          |
| Work platforms                | .66, .67      |

That concludes this first draft of an inspection guide.....Dale A.  
Webb