

Helpful Inspection Tools

COMMON WORK PLANNING AND CONTROL DEFICIENCIES

- Work being performed without proper Work Authorization and Approval
- Standard Operating Procedures
- Emergency Notification – Shutdown Procedures

COMMON ELECTRICAL DEFICIENCIES

- Electrical Panel Requires 36" Of Free Working Depth and 30" Of Free Working Width
- Open electrical boxes or panels exposing wires
- Power cords passing through walls or ceilings
- Live front electrical plugs
- Out of date or no Energized Electrical Work Permit
- Ground Fault Circuit Interrupters not used within 6' of a sink location
- Frayed power or extension cords
- Ganged (multiple) extension cords/Relocatable Power Taps
- Cords, cables or items affixed to conduit
- Relocatable Power Taps Permanently Mounted
- GFCI not be used with portable power tools
- Equipment not NRTL listed or DEEL approved
- Electrical Component Used Outside Manufacturers Guidelines
- Ground Needs to Be Green or Bare
- Inadequate Strain Relief on Cord
- 90-Day Limit on Extension Cords
- Insulate Accessible Electrical Terminals/Contacts
- Power mixed with other utilities in cable tray
- NFPA 70 Arc Flash Warning Label

COMMON COMPRESSED GAS CYLINDER DEFICIENCIES

- Unsecured cylinder
- Cylinders in storage with regulators, or no protective covers
- Oxidizers and flammable gases in storage not separated by 20' or a firewall that is 5' high
- Full and empty cylinders stored together
- Lecture bottles not supported or stored correctly
- Gas cabinets not current and posted with annual velocity tests

COMMON WALKING/WORKING SURFACE DEFICIENCIES

- Lack of delineation in changes of surface (ie: yellow Caution striping tape)
- Ladders with cracked side rails, steps, or feet that are not stable
- Tripping hazards
- Use of metal ladders and step stools around electrical systems
- Ladder inspection not completed annually

COMMON HAZARD COMMUNICATION DEFICIENCIES

- Labeling of product not evident on bottles or containers
- Employees not aware of hazards of materials being handled
- No up to date inventory or inspection of items in a Satellite Waste Accumulation Area
- Current contact information and hazard description on door placards
- Store Waste in Satellite Waste Accumulation Area (SWAA)
- Store Waste in Secondary Containment

COMMON PERSONAL PROTECTIVE EQUIPMENT DEFICIENCIES

- Lack of personal protective equipment in designated areas
- Damaged or broken safety glasses, hard hats, etc.
- Gloves not selected correctly to protect against chemicals in use
- Warning lights visible without proper signage

COMMON FIRE AND LIFE SAFETY DEFICIENCIES

- Storing combustibles by heat producing appliances
- Hanging or attaching items to fire sprinkler pipe
- Out of date or no Open Flame Permit

- Lack of approved (UL/FM) flammable liquid storage cabinets
- Approved flammable liquid cabinet with vent bungs missing
- Emergency lighting inoperative
- Exit lighting inoperative (exit signs, stair, corridor, exterior lighting, etc.)
- Blocked fire extinguisher access or inadequate signage
- Exceeding flammable storage requirements within approved flammable liquid cabinets
- Blocked paths of egress/exits
- Storage of items within 18" of sprinkler heads
- Painted sprinkler heads or missing escutcheons
- Blocked or shielded emergency lighting
- Fire Doors blocked open
- Blocked sprinkler valve access
- Excessive combustibles/poor housekeeping
- Blocked exit discharge (snow, weeds, etc.)
- Obstructed hydrants and post indicator valves
- Lightning rods and grounding cable not in place
- Debris accumulation around building periphery
- Close Open Ceiling Tiles
- Remove Legacy Cabling
- Remove Legacy Equipment
- Secure Items Stored Greater Than 6 Ft.

COMMON INDUSTRIAL HYGIENE/CHEMICAL SAFETY DEFICIENCIES

- Storage of incompatible chemicals
- Storage of corrosives outside of secondary containment
- Improper storage of chemicals - Liquid chemicals should not be stored above eye level
- Chemical storage shelves should have a lip at all exposed edges or closable doors to prevent chemicals from falling
- Laboratory hoods not current and posted for annual face velocity tests
- Laboratories using chemicals not maintained at negative air balance condition
- Lack of proper signage and barriers at lead storage and use areas
- Particular Hazardous Substance posting not current
- Chemicals in CORAL and RFID Barcode Affixed
- Use Blunt Tip Needles or Pipettes when possible
- Ensure Lead Storage Areas are Covered and Labeled
- Label Vacuum to Prevent Use with Hazardous Materials
- Ensure HEPA filtered vacuums have Annual Filter Testing
- Eyewash Requires 18" Clearance

COMMON SAFETY MAINTENANCE INSPECTION DEFICIENCIES

- Lack of weekly testing and documentation of eyewash stations
- Lack of semi-annual safety shower testing and documentation
- Lack of power tool annual inspection – All metal tools only
- Lack of sling/hoist inspection program
- Lack of monthly LOTO station audits
- Lack of monthly Satellite Waste Accumulation Area inspections
- Look for load rating and manufacturer's name on lifting devices

COMMON OFFICE SAFETY DEFICIENCIES

- 911 Label required on phone
- Unstable cabinets
- Housekeeping (clutter, storage on top of filing cabinets, etc.)
- Chemicals stored in offices
- Unstable/broken office furniture
- Items stored above 6' that could create a falling injury hazard
- Poor ergonomic layout of computers and similar equipment leading to recordable work-related injuries
- Office chairs with wheels causing a tip over hazard on certain surfaces

COMMON MACHINE OR APPLIANCE GUARDING DEFICIENCIES

- Lack of guarding of power transmission applications below 7' (Pump motor shafts, etc.)
- Lack of guarding of rotating hazards below 7' (Fans, etc.)

- Lack of machine guarding reviews of newly acquired machines prior to and after purchase.
- Machine guarding guide not posted at machine tool
- Building/Division machine inventory not current
- Machine shop Authorized User list not current
- Tool rest not to exceed 1/8"
- Tongue guard not to exceed 1/4"

COMMON RADIOLOGICAL SAFETY AND ACCELERATOR TUNNEL ACCESS DEFICIENCIES

- Lack of dosimeter in required areas
- Lack of proper PPE – Safety Glasses and Safety Shoes
- Lack of current radiological training
- Lack of proper Group LOTO for tunnel work
- Work with Lead being performed without proper barriers, signage or PPE

LASER

- Class 3 and Class 4 lasers not in ANL inventory and reviewed by Laser Safety Officer.
- Lack of approved laser safety SOP (annual)
- Lasers operated without approved safety interlocks
- Interlock not inspected/documented annually
- Annual inspection of laser eye wear
- Operating Permit from laser safety officer posted with current divisional authorization
- Use of greater than Class 2 laser pointers in public

COMMON PRESSURE SAFETY ITEMS

- Corrosion on tubing, vessels or piping
- Evidence of gas or fluid leaks
- Maximum Working pressure greater than component pressure ratings
- Proper labels, markings on pressure related items
- Overpressure protection on Cryo-cooled Mono's
- Air Nozzle limited to 30 psi or Dead-Ending Safety Tip installed
- Cap/Plug Open Piping systems
- Label Utilities with Content and Direction of Flow

SLING TAG COLORS (numbers equal months)

- YELLOW 1 & 7 January and July**
- WHITE 2 & 8 February and August**
- ORANGE 3 & 9 March and September**
- GREEN 4 & 10 April and October**
- RED 5 & 11 May and November**
- BLUE 6 & 12 June and December**

ROBOTIC SAFETY

- Load limitation devices and interlocks**
- Collision avoidance features**
- Simple touch of apparatus stops motion**
- Emergency stops - local and remote**
- Warning Light to communicate operation and motion**
- Mounted to prevent unintended motion of the equipment**
- Signage**
- Pressure pad/ Light curtain – stops motion or turns off robot**

Biosafety Level 1-standard chemical lab at the APS

- Eyewash
- Sink
- Easily cleaned work surfaces/benchtops are impervious/ decontaminated once a day during experiment
- Biohazard Signs are *not* required for BSL1
- No eating, drinking, etc. in labs. No mouth pipetting
- Sharps containers in place. Biohazard waste receptacles (red bags) when experiment in progress.
- Proper PPE, lab coats, eye protection, gloves
- All wastes are decontaminated before disposal by approved methods

Biosafety Level 2- (438/E030 and Sector 14) and temporary setups in other sectors (ex. 18, 13, 5, 2) - BSL1 Safety

Practices Plus:

Biohazard Signs (identify agent, contact info, and special requirements to enter) is required at the entrance and where samples are stored or manipulated.

Restricted access to the lab when experiment is in process.

An insect and rodent control program is in effect. No visible signs of infestation and documentation of inspection.

SOP for procedures are prepared or adopted. Appropriate training is acquired.

Sharps container in place "Sharps precautions in place". Biohazard waste containers (red bags) in place.

Properly maintained Biological safety cabinets may be needed depending on the agent used.

Proper PPE. Lab coats, gloves (sometimes two pairs), goggles, mask or face shields. PPE is left in the lab and not removed. Protective clothing needs to be laundered by the institution and not taken home.

All wastes are decontaminated before disposal by approved methods