AIR POLLUTION CONTROL DISTRICT

POLICY: Safety While Conducting Inspections

EFFECTIVE: March 28, 1994
May 27, 2021 (revised)

POLICY NUMBER: 23

The Imperial County has adopted the Illness Prevention Program manual. This manual sets forth policy, procedures and instructions for the County of Imperial Injury & Illness Prevention Program. This manual is applicable to all County employees, to all work conducted under the authority of the County, and to all equipment and property managed by the County. It is the responsibility of all County employees to be familiar with all safety and health policies and procedures in this manual. A copy of this manual can be found in the Imperial County's website: https://hr.imperialcounty.org/forms/#policies

In addition, the APCD has adopted this policy with the intention to provide guidance to inspectors regarding personal safety when conducting inspections. Any time an inspector enters an industrial facility, safety should be a primary concern. Industrial facilities contain many hazards, which could result in serious and disabling injuries or death. During an inspection, the inspector will minimize the risk of accident and injury by using the following guidelines.

As a general rule the inspector will, at all times, conform to the safety practices required by the operators of the facility being inspected. However, if the inspector feels that safety practices do not eliminate the threat to his/her safety, the inspector will withdraw and return only when either proper protective equipment or modifications of facility operations have neutralized the hazard.

As part of the pre-inspection interview, the inspector will inquire about any potential safety hazards and ask to be instructed in any source specific safety practices required by the source operators and the location of emergency safety equipment.

AWARENESS:

The most important aspect of safety is the awareness of potential hazards. The inspector must remain alert and cautious throughout the entire inspection tour of any facility. Remaining alert with mental awareness and visual attention focused outwardly on the surrounding environment will prevent most injuries. The following behavior will enhance the inspector's external awareness while conducting inspections:

1. Do not daydream or ponder past or future events while walking through a facility. This internally focused mental activity distracts your attention from the surrounding environment and prevents you from noticing potential hazards.

2. Do not write while walking, and keep conversation to a minimum.

3. Focus your eyes well ahead and occasionally glance briefly from side to side.

4. Always follow the facility escort. Do not attempt to lead the inspection. If you feel you are being directed away from an area with which you are concerned, ask the escort to lead you to that area.

5. When entering buildings from the outside, **STOP WALKING.** Allow your eyes to adjust to the dimmer light.

6. Allow the escort to open doors for you, and once through a door wait for the escort to resume the lead.

7. If you recognize a potential hazard ahead, **DO NOT WALK INTO IT**!

RESPIRATORY HAZARD:

Within most air pollution sources there will be either existing or potential respiratory hazards. These hazards can be in the form of fumes, dust, mist and/or toxic gases. Proper safety measures designed to eliminate or neutralize a respiratory hazard depend upon the particular form of the hazard.

Airborne particulate pollutant respiratory hazards include dust, asbestos, aerosols, paint and fiberglass overspray and combustion particulates. Sources of fumes include solvent degreasers, surface coating operations, gasoline storage and dispensing facilities, and crude oil production, processing and transfer facilities. Toxic gases such as H2S occur in geothermal facilities, as well as in waste water treatment and disposal, and well water treatment operations. Other less common toxic gases may be present in electronic parts manufacturing facilities or other "high tech" operations.

Certain areas within facilities are more prone to respiratory hazard than others. Roofs and platforms are susceptible to concentrated rising clouds of fumes and gases. Also, inspectors may subject themselves to respiratory hazard when using the "nose test" to detect potential sources of nuisance odors.

Where potential respiratory hazard exists, there are two methods of respiratory protection: escape and respirators.

Escape:

The potential for respiratory hazard in many sources, while present, is not sufficient to warrant the wearing of respirators at all times while in the facility. However, in such facilities there is always the chance that an unforeseen event will result in an acute and unexpected respiratory hazard. In this case, escape or quick access to respiratory protection equipment is essential to prevent injury or death. Depending on the nature of the facility and the potential hazard, the procedure for escape will differ from source to source. The inspector should be aware of these procedures before conducting the facility tour. If there are central locations for respiratory protection equipment or areas in the plant designated as safe or specified routes of escape, the inspector must know these safety procedures.

The following are general guidelines for escaping from respiratory hazards:

1. Escape into the wind unless going in would take you closer to the source of emissions. Otherwise, escape at right angles to the wind. The pollutants will follow you if you attempt to withdraw in the direction of wind flow, i.e. downwind.

2. If available, escape to the nearest respiratory protection device or area designated as safe.

3. If possible, leave the facility altogether. You can always return to conduct the inspection at another time.

4. If you must choose between documenting a violation and escaping to protect your safety, **ALWAYS CHOOSE SAFETY FIRST!**

Respirators:

There are two types of respirators – filter type respirators and supplied air types. The safest form of protective equipment is the supplied air type of respirator. Properly used, the supplied air type of respirator will protect the inspector from all types of respiratory hazard. However, the weight and bulk of supplied air units detract from the positive aspect of complete protection.

Filter type respirators are light, and come in various styles and filter designs, to meet various hazard situations. The benefits of the comfort and ease of use of the filter type respirator are offset by its limited protective capabilities. Both types of respirators are good forms of respiratory protection if chosen for the appropriate hazard and correctly used. **BEFORE USING ANY RESPIRATORY PROTECTION DEVICE, GET TRAINING IN ITS PROPER USE.**

The following general guidelines provide the inspector with knowledge applicable to the use of all respirators:

1. When preparing to conduct an inspection, determine any potential respiratory hazards present at the facility.

2. Know what type of respiratory protection is recommended by OSHA, NIOSH or MSHA for the specific type of hazard to be encountered. Discuss this with your supervisor if necessary.

3. Equip yourself with the proper respiratory protection for the inspection. If the District has not provided you with the equipment and training you need to conduct a safe inspection, do not conduct an inspection, and inform your supervisor.

4. During an inspection do not enter any area of a facility that may contain respiratory hazards for which you do not have the proper protective equipment.

5. As with all safety matters, the inspector will conform to the respiratory protection practices required by the operators of the facility inspected, unless those practices put the inspector in danger.

Nose Test:

The inspector will make every attempt to avoid using the "nose test" to determine if odors are

being emitted from a vessel or exhaust opening. If the "nose test" is used, the inspector will use the standard laboratory technique of waiving one's hand over the opening to draw the air sample to the nose. The inspector will never place his or her nose directly over the opening of any vessel or exhaust.

MOVING EQUIPMENT HAZARD:

In many industrial facilities, the inspector may encounter moving equipment and vehicles. Such equipment presents a collision and impact hazard.

Moving Equipment

Moving equipment creates two types of hazards – entanglement and subsequent pulling toward the moving parts and reciprocal impact. The following guidelines should be used to prevent injuries from moving equipment:

1. Secure or eliminate dangling objects such as strap-supported instruments, loose clothing and neckties, which may become caught in moving equipment

2. Tuck long hair under collar.

3. Assume that equipment intended to be in motion will activate, without warning, at any moment.

4. Do not reach into the range of moving equipment with your hand or hand held tool for any reason.

Vehicles:

Industrial facilities may contain moving vehicles such as forklifts, earth moving equipment, trucks and cranes. Many of these vehicles have poor visibility from the driver's cab. Consequently, the inspector should assume that the drivers of these vehicles cannot see the inspector and escort. The following guidelines should be used to prevent injuries from moving vehicles:

1. Be defensive in your actions around moving vehicles. Never assume the driver can see you.

2. Always let the escort lead the way.

3. Watch for movement patterns before proceeding. Industrial vehicles usually follow very distinct routes and movement patterns as they go about their tasks.

4. Never walk between railroads cars or other vehicles.

5. Never stand on roads, railroads tracks or impressions in ground made by vehicle traffic.

6. Allow a 75-foot clearance from any stopped railroad engine or cars when crossing tracks.

7. Always wear your hard hat when in an area of industrial vehicle traffic. Hard hats are brightly colored and enhance your visibility.

BURNS AND HEAT HAZARD:

All sources of combustion are potential burn hazards. Except for open fires and waste gas flares, combustion processes in facilities inspected by the APCD are contained. These contained combustion processes present radiant heat hazards. There are also burn hazards associated with the gathering of samples of heated materials such as crude oil.

Open fires:

During the inspection of open outdoor fires, inspectors should use the following measures to mitigate burn hazards:

1. Always stand upwind from the burn. Large piles of burning agricultural debris may reach very high temperatures and burn a victim considerable distances downwind of the blaze. Also, in case of grain stubble burns, the fire will spread in the direction of wind flow. Anything downwind of the fire can be engulfed in flames.

2. Do not approach an open outdoor fire in your vehicle. You will not feel the heat and may drive too close to the fire before you realize you are in danger. Park your vehicle well away from the fire and approach on foot.

3. Wear your hard hat. Forces of convection may take burning debris airborne, which will then drop to the ground as the wind takes it out of the convection current.

4. Wear cotton or wool clothing that completely covers your arms and legs. Nylon and polyester will melt and adhere to your skin, if subjected to high heat or open flame. Cotton will scorch first and offer better protection.

5. Wear gloves if you are going to remove evidence from a fire.

6. If a fire begins to burn out of control during an inspection, withdraw immediately to a place of safety.

Radiant Heat Sources:

Contained combustion sources produce radiant heat, which cause a potential contact burn hazard. The heat of this equipment is not often obvious to casual observation. Boilers, compressors, exhaust ducts, steam lines and back end air pollution control equipment will all have hot surfaces and should not be touched. Inspectors should use the following measures to prevent burns from contact with sources of radiant heat:

1. If you do not know if a surface is hot, assume it is.

2. Do not lean against any equipment in a facility that are sources of radiant heat.

3. If it is not a chair, do not sit on it.

4. Avoid areas where you observe steam venting at ground level.

5. Wear cotton, wool or leather clothing that completely covers your arms and legs. Some facilities may provide you with a Nomex jacket. Nomex is fireproof material.

6. In close quarters, look in the direction you want to move before you move. Turning too quickly can put your elbows in contact with hot surfaces before you realize it.

7. When taking samples of hot liquids, wear gloves.

8. Wear your hard hat. The potential injury from bumping your head can be compounded if you bump it on a hot surface.

9. During the pre-inspection interview, inquire as to the types and locations of potential burn hazards, and be sure you are aware of any radiant heat burn safety practices required by the source operators.

ABRASIVE SURFACE AND SHARP OBJECT HAZARD:

During an inspection, an inspector may come into contact with abrasive surfaces or sharp objects. These objects and surfaces present abrasion, cut and puncture hazards. Any time the inspector encounters such surfaces or objects, he/she should avoid contact if possible. If it is necessary to handle sharp or abrasive objects in order to verify compliance, the inspector should wear gloves to prevent injury.

The use of drager tube gas sampling equipment requires the inspector to break the ends of glass ampules. This should be done with care while and wearing gloves. If it is necessary to insert the end of a sample ampule into a length of rubber tubing, the ampule should be inserted into the tubing prior to being placed in the receptacle in the hand pump. This will mitigate the potential for severe deep puncture should the ampule break.

Reaching into adaptor wells to remove pipe caps during the inspection of Phase I vapor recovery systems can subject the inspector's hand to abrasion, cut and puncture hazard. Inspectors should always wear a glove when removing these caps.

When climbing ladders, the rungs may be contaminated with dirt or abrasive chemicals, or may have sharp points on weld beads. To prevent abrasion or puncture, the inspector should always wear gloves when climbing ladders.

Inspectors should avoid brushing up against railings, walls, pipes and other surfaces. Long sleeved shirts or jackets made of sturdy cotton or wool will protect the limbs against abrasive surfaces.

Glass containers should not be used to gather samples. Glass may slip out of the hand or fracture from thermodynamic stress resulting in cut and puncture hazards.

FOOT INJURY HAZARD:

Injuries to the feet can result from falling objects, stubbing, missteps, chemical spills or twisting of the ankle. These injuries can be prevented with proper footwear. An inspector should wear sturdy shoes that cover the entire foot and have low or no heel. The soles of the shoes should be of a non-slip design and material. In some industrial facilities, where the hazard of falling

heavy objects is present, the inspector must wear steel-toed safety shoes. Some facilities where solvents are in continuous use may require the use of leather soled shoes.

WALKING HAZARD:

The hazards involved in walking through an industrial facility include slipping hazard, tripping hazard, and the hazard of stepping into holes. Proper footwear will partially mitigate hazards associated with walking. Shoes should have low or no heel and have non-slip sole design. Inspectors should remain aware of the area ahead of them and avoid walking on wet or slippery surfaces.

Areas within facilities may be equipped with bulk head designed doors or raised metal lips or berms for spill containment. All of these designs present trip hazards. Inspectors should remain aware of raised surface on the ground or on any platform. Taking care to pick up your feet rather than shuffling is a method of neutralizing most trip hazards.

On platforms and within the grounds of mining facilities, and in facilities undergoing construction, there may be holes of various widths and depths. Inspectors should remain aware of their path and avoid such holes. Should the inspector need to approach a hole to inspect its contents, he/she should remain at least six feet from the edge. The sides of excavations may collapse without warning.

Never walk while looking through the view finder of a camera. While focusing through the view finder the inspector cannot see the immediate surrounding area. This practice may result in slipping, tripping and stepping into holes or off the edge of elevated platforms.

FALLING/CLIMBING HAZARD:

Many inspections require climbing ladders or stairs and walking on platforms, catwalks and roofs. The hazard associated with these activities is that of falling.

When climbing ladders or stairs, the inspector should keep both hands free for grasping rungs and rails. Stairs or ladders should not be climbed during rainy conditions or so soon thereafter that the steps or rungs are wet. Only the foot rungs should be grabbed while climbing ladders. Never grab the side rails while climbing a ladder. When climbing stairs, always keep at least one hand on a handrail.

If the inspector needs to take equipment up stairs or ladders, that equipment should be transported on a shoulder strap, in a backpack or hauled up by rope once the inspector has arrived at the desired level. Hands must remain free of equipment when climbing. When an inspection necessitates climbing, pocket notebooks are preferable to clipboards for note taking. If the ladder or stairs appear unsafe, do not climb. Request that the operator provide safe access or notify your supervisor.

Before walking on platforms or catwalks, check them visually to make sure they are intact and not corroded. Do not lean against rails on platforms, catwalks and roofs. Leaning against an insecure railing on an elevated platform could result in a lethal fall.

The following guidelines should be used when climbing ladders:

1. Use both hands when climbing a ladder. Wear gloves at all times when climbing.

2. Grasp the rungs, not the rails, of ladder when climbing.

3. A safe ladder is at least 18 inches wide.

4. A fixed ladder with a safety cage should extend at least 3.5 feet above the surface elevated platform.

5. There should be at least 8 inches clearance between the rungs and the wall to which the ladder is attached.

6. Makeshift ladders and stools should never be used.

7. Visually inspect the rungs of a ladder, verify that they are intact, before applying weight to them.

8. When using a portable ladder, verify that the bottom is secure, and have someone hold the bottom of the ladder if possible.

9. The top of a portable ladder should extend 3 feet above the top of the elevated platform.

10. Regardless of its height and strength, only one person should climb a ladder at a time

HEAD INJURY HAZARD:

There are two types of hazards that could result in head injury – low overhead passages and falling objects. The inspector should wear an approved hard hat at any facility where there is the potential for either of these two hazards.

A hard hat is not 100 percent protection against all falling objects. For facilities constructed on several levels, inspectors should look for workers overhead areas the inspector plans to enter. If in the opinion of the inspector, the overhead work presents an unreasonable falling object hazard, he/she should not enter that area.

EYE INJURY HAZARD:

Hazards to the eyes are present in many industrial facilities. These hazards are produced by fugitive and process particulate emissions, moving machinery, low overhead projections, toxic gases and hazardous liquids.

Inspectors should wear impact resistant safety glasses equipped with side shields whenever conducting an inspection of an industrial facility. In the case of hazards produced by irritating gases or liquids, splash goggles offer the best protection. If the inspector determines that he/she needs additional vision protection, which has not been provided, he/she should contact a supervisor with a request for supplemental safety equipment and obtain it prior to conducting the inspection.

In facilities where there is potential for H_2S exposure, contact lenses are prohibited for two reasons. H_2S may get under the contact lenses and cause injury to the eye, and contact lenses

may be blown off or forced up under the eyelid by positive pressure respirators. If the inspector requires corrective lenses, he or she should wear prescription safety glasses in facilities where there is potential for H_2S exposure.

Inspectors should not look directly into boiler or process heater fireboxes as blackbody radiation given off by fireboxes may damage the eyes.

The inspector should always be aware of and follow the vision safety practices required by the facility operators.

HEARING INJURY HAZARD:

Inspectors will often be exposed to acute noise exposure during the inspection of industrial facilities. The cumulative results of short acute exposures to loud noises may be permanent hearing loss. Loud and high-pitched noises are produced by many types of industrial machinery. In noisy environments, the inspector should wear earplugs or other hearing protection at all times. If communication becomes difficult, do not remove your hearing protection. Rather, write down you question or ask it in an area where noise levels are not hazardous. Do not wear hearing protection when it is not necessary. The inability to hear warning bells, horns and sirens or spoken warnings from your sector could result in exposure to other types of hazards.

EXPLOSIVE HAZARD:

Industrial facilities may contain areas of explosion hazard. These are areas where there is a potential for fugitive gaseous hydrocarbon emissions or where there are large amounts of organic solid material stored. Three types of materials could initiate explosions in these types of environments: open flame and embers from smoking, sparks from battery operated equipment and accumulated static electricity. The following guidelines should be used by inspectors to minimize the danger in potentially explosive environments.

1. Do not use battery operated equipment in a potentially explosive environment unless that equipment is certified as intrinsically safe.

2. Never take smoking materials with you on an inspection.

3. Wear shoes designed to prevent the accumulation of static electricity.

Facility operators may require you to wear certain clothing and shoe covers to prevent the accumulation of static electricity. If the source will not provide this equipment to you, contact your supervisor and obtain the equipment prior to conducting the inspection.

RADIATION HAZARD:

District Rules do not provide authority to APCD personnel to regulate sources of radioactivity. Consequently, there should be no reason to enter areas of radiation hazard. However, if permitted equipment is located in areas designated as potential radioactive areas, the inspector should contact his/her supervisor prior to conducting an inspection of that equipment.

SAFETY EQUIPMENT:

Each inspector is issued the following safety equipment, which he/she should have with them in the field at all times:

1. Splash Guard goggles.
2. Hard hat
3. Ear plugs
4. Gloves (chemical and leather)
5. Tyvex Coveralls
6. First Aid Kit
7. Water thermos
8. Particulate Respirators N95
9. Steel toed shoes

If APCD personnel require further safety equipment, they should contact their supervisor.

Matt Dessert
Air Pollution Control Officer