

BIE SAFETY ADVISOR



It is October and it is time to talk Fire Prevention. National Fire Prevention week is October 8-14, 2017. This year's theme is, *Every Second Counts, Plan 2 Ways Out!*

When we think fire prevention we typically think back to the days when we were in elementary school, the annual fall visit from the fire department and getting to check out and climb on the fire truck as a diversion from the normal school routine. Or perhaps we think of all those fire drills the school was trying to get in before the cooler weather set in. These days, perhaps you notice the Open House activities at your local fire department and if you have little ones, they want to stop and check it out.

Well fire prevention extends much further than elementary school visits, required fire drills, fun activities at the fire department or EDITH (Exit Drills In The Home). Fire prevention extends to the work and construction site as well.

So some logical questions to ask, do you know 2 ways out at your jobsite or back at the office? How do we communicate this information to our employees? Well, if you have more than 10 employees, OSHA requires that you have a written Emergency Action Plan (EAP). The requirements of the EAP are found in 29CFR1926.35. The EAP is basically your EDITH for the work environment.

The minimum requirements of the EAP include:

- Emergency escape procedures and emergency escape route assignments
- Procedures to be followed by employees who remain to operate critical plant operations before they evacuate
- Procedures to account for all employees after emergency evacuation has been completed
- Rescue and medical duties for those employees who are to perform them
- The preferred means of reporting fires and other emergencies; and
- Names or regular job titles of persons or departments who can be contacted for further information or explanation of duties under the plan
- An alarm system
- Employee Training

If you need assistance in writing or updating an existing EAP, OSHA has an eTool to assist you. The eTool can be found at:

<https://www.osha.gov/SLTC/etools/evacuation/expertsystem/default.htm>



**Building Industry Employers
Of New York State**

Welding, Cutting and Brazing

Welding, Cutting and Brazing, otherwise known as Hot Work is the process of working with metals to create individual parts, assemblies, or large scale structures, and requires a correspondingly wide range of skills, processes, and tools. Modern welding and metal work processes, though diverse and specialized, can be categorized as a forming, cutting or joining processes. Welding, cutting and brazing are essential activities throughout the construction industry. Welding and hot work can also be a fire source on a job site.

Health hazards from these operations include exposures to metal fumes and to ultraviolet (UV) radiation. Safety hazards from these operations include fires, burns, eye damage, electrical shock, cuts, and crushed toes and fingers. Many of these can be controlled with proper work practices and personal protective equipment (PPE).

General Metal Work Safety

- All equipment operators shall be trained on safe operation.
- Operators shall inspect machinery before and after use for any defects.
- Point of Operations Guarding **MUST** be in place and used at all times.
- Proper eye protection shall be worn at all times.
- Always wear correct personal protective equipment (PPE) pertaining to the job task.
- Remove or secure jewelry, long hair, and loose clothing.
- Avoid skin contact with metalworking fluids.
- When possible, always use a well mounted vice to grip work.
- Remove all scraps of metal with a brush, **NEVER** by hand or with an air compressor gun.
- Always receive authorization before working with reactive or harmful emission giving metals.

Welding Safety

Be aware of host employer requirements for Hot Work Permits and welding in areas where flammable liquids or materials may be present. Assure adequate safeguards are in place to prevent fire and personal injury.

Welding and Cutting Fires are Usually Caused by One of Three Things:

- Sparks and Slag: can fall through cracks or openings in floors, under doors, on combustible material or on flammable liquids. Sparks can fly 35 feet horizontally, may smolder in cracks with fire breaking out after the end of the shift.
- Metal: being cut or welded can transmit heat by conduction or radiation and start a fire in adjacent or nearby combustibles.
- Torch: the cutting torch accidentally coming close to, or in contact with, combustible material can be a ready source of ignition.

To Prevent Welding and Cutting Fires:

- Move work to a safe place. If work can't be moved, remove flammables and combustibles from area or cover with fire retardant blanket.
- Sweep floors clean.
- Keep fire extinguishers handy and be fully knowledgeable in its use.
- Don't cut or weld in the presence of flammable liquids or vapors, in the presence of lint or dust, or on unpurged containers previously holding flammable liquids.
- Acetylene gas can 'pool' and ignite; avoid situations where the gas can "pool" if the valve is left open.
- Choose a safe direction for the cut so that the sparks are going in the direction you want.
- Maintain a fire watch for at least 30 minutes after the ceasing of welding/hot work operations.



Arc Welding Safety

- Make sure the work and /or worktable is properly grounded.
- Inspect your work area thoroughly before beginning welding operations. DO NOT arc weld if it is damp or substances have a potential to ignite.
- Turn the arc welder off before removing any grounds from the table or material.
- DO NOT arc weld with skin unprotected. The arc light acts as Ultraviolet light and will cause something comparable to sunburn.
- Avoid clothing that has pockets, or spaces where hot embers may fall.

Oxygen Fuel Gas Welding/ Cutting

- All compressed gas cylinders should be clearly marked, and appropriately stored.
- Check all connections and hoses for leaks. Remove defective equipment from service.
- If using acetylene, keep the pressure below 15 pounds.
- Purge your hoses before lighting the torch.
- Never light your torch with a mixture of fuel and oxygen. After purging the lines, light the torch with only the fuel gas valve open.
- Check valves should be installed on both torch inlets and operating properly. Check valves can stop the reverse flow of gases, but will not prevent flashbacks.
- To prevent flashbacks, flashback arrestors must be installed on the outlets of both regulators, and/or torch inlets.

Handling of Compressed Gas Cylinders:

- Avoid dragging or sliding cylinders, even for short distances. They should be moved using a suitable hand truck. Never lift them over your shoulder or other wise carried by hand.
- Never drop cylinders or permit them to strike each other violently.
- Do not remove the product identification label or change the cylinder color.
- When returning empty cylinders, close the valve before shipment, leaving some positive pressure in the cylinder. Replace all cylinder caps when returning the cylinder to storage.

Storage of Cylinders:

- Always store cylinders in the upright position & secured in place. Cylinders may be stored in the open, but should be protected from dampness of the ground to prevent rusting.
- Smoking or open flames are prohibited in gas cylinder storage areas. Make sure a sign is in place to inform all personnel.
- Oxygen cylinder storage must be separated from flammable gas storage areas or combustibles by at least 20 feet or by a 5' non-combustible wall.

Information for this Tool Box Talk was provided through www.osha.gov and Cornell University

