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Safety Discussion – Personal Protective Equipment



This quarter's safety discussion focuses on personal protective equipment (PPE). Personal protective equipment includes all clothing and other work accessories designed to create a barrier against workplace hazards. Examples include, safety goggles, blast shields, hard hats, hearing protectors, gloves, respirators, aprons, and work boots. PPE should not be used as a substitute for engineering, work practice, and/or administrative controls to prevent exposure to hazardous chemicals and substances or noise. For example, ear plugs are not meant to be worn by a worker for their entire work shift. Other methods such as a reducing the noise by moving the source farther from the worker, or rotating the worker out of the noisy environment to limit their total exposures should be utilized. However, PPE is valuable when used in conjunction with such preventative measures or when such controls are not possible. The OSHA standards that discuss personal protective equipment can be found online at www.osha.gov.

Large Loss Review – Arc Flash Fatality



Bill Philips was employed at Bright Star Electric, a commercial electrical contractor, for 15 years. He started as an apprentice and worked his way up through the ranks to journeyman electrician. Over the years he would occasionally work on live electrical systems, and he accidentally received "minor" electrical shocks on more than one occasion. None were severe enough to require medical attention. Working on live equipment was considered acceptable if necessary, and no special precautions were taken to protect the workers from electrical shock or arc flash injuries.

On March 15, 2010, Bill's luck ran out. While working in a live electrical panel, Bill dropped a pair of wire strippers and an arc flash occurred. The resulting fire ball engulfed Bill's head and upper body. His head, face, and neck sustained 3rd and 4th degree burns. Both ears and most of his nose were completely burned away. The nylon clothing he was wearing melted to his body and had to be cut off of any remaining flesh. He sustained major injuries to both eyes and his lungs from the hot gases emitted during the blast. He spent 6 months in the burn ward before he died from an infection.

What could have saved Bill and his family from this tragedy? First, working on live electrical systems is only permitted under certain circumstances which are outlined in OSHA and NFPA 70E. Bill should not have been working live - the panel he was working on should have been de-energized and locked out. When live electrical work is permitted under the OSHA and NFPA 70E standards, specialized personal protective equipment must be worn. This can include flame-resistant shirts, pants or coveralls, or a multilayer flash suit. A complete arc flash analysis needs to be completed on electrical panels, switchgear, etc. to determine the arc flash potential and the required level of flame-resistant clothing.

Tool Box Meeting – Understanding PPE

Ask your crew the following questions about personal protective equipment. Make sure they understand that PPE is not always the best way to protect themselves from hazards on the job site. (the answers can be found on the last page).



1. A Type I hard hat will protect you from both overhead and lateral impacts. True or false?
2. Personal protective equipment should be used before trying to control or eliminate the hazards with expensive engineering controls. True or false?
3. Workers need to be trained on the proper use of all types of personal protective equipment. True or false?
4. When using a chop saw to cut metal parts, the only personal protective equipment you need is safety glasses. True or false?
5. Dielectric gloves do not need to be tested on a regular basis as long as there is no visible damage to the glove. True or false?
6. Fire resistive clothing will guarantee that you are not burned or injured if you are exposed to an arc blast. True or false?
7. When selecting a hearing protection device, the NRR should be taken into consideration. By subtracting the NRR from the noise the worker is exposed to you can determine the actual noise exposure. True or false?
8. ANSI approved safety glasses would be a good choice for protecting a worker who is spraying acid wash solutions on a brick wall. True or false?
9. It is the employer's responsibility to pay for and provide workers with the proper PPE. True or false?
10. A good solution for controlling silica dust on the job site is to use large fans to blow it into a section of the building where others are not currently working. True or false?

Looking for some free safety meeting topics?

www.toolboxtopics.com/

Construction Safety and Health Training - Custom courses for your employees

General Casualty's staff of construction safety and health professionals are ready to provide customized training sessions to you and your employees. We have authorized OSHA Outreach trainers that can deliver the OSHA 10 Hour Construction Course customized for your operations. Our construction trainers regularly present competent person level training in fall protection, excavation safety, and scaffold user safety. Other construction topics such as electrical safety, confined space safety, PPE, load securement, welding safety, hazard communication, and many others can be presented to your employees at your yearly kickoff meeting or training days. Our training sessions are conducted with visually stimulating PowerPoint presentations, videos, and training aids. In 2010 we presented construction training courses to over 3,500 workers.



Our newest courses, Basic Rigging and Signal Person, are now available to help keep your hoisting operations safe and keep you in compliance with OSHA's newest standard, Subpart CC - Cranes and Derricks in Construction. Contact your General Casualty loss control expert for a full listing of construction courses or to schedule a training session. Additional information on our construction safety and health training capabilities can be found on the General Casualty Loss Control Services page.

<http://www.generalcasualty.com/products-services/loss-control-services/construction-safety.aspx>

2nd Quarter 2011

Safety Products – Hard hats, goggles, gloves, and others

Don't risk your personal safety. When hazards can't be eliminated or adequately controlled, you may need to protect yourself with personal protective equipment. Here are some sources to help you locate the needed equipment.

Dielectric boots and gloves, insulated tools, arc flash protective clothing - www.salisburybyhoneywell.com

Hard hats, Type I and II, classes E, C, and G - www.labsafety.com

Safety glasses and goggles, face shields, welding helmets - www.conney.com

Fall arrest harnesses, lanyards, lifelines, anchorages - www.millerfallprotection.com

Respirators, gas detection equipment, and technical assistance - www.msanorthamerica.com

The To Do List

Throughout the year we often have great ideas about how to get organized, how to work more safely, or how to reduce our exposure to loss. We might write a note to ourselves and put it in our in-box or on a Post-It Note on our computer monitor. Here are some loss reduction suggestions for your in-box that will help you manage your exposures.

April 2011

- Make April "Gang-box Clean-up Month". Long lost tools, oil soaked rags, worn out and discarded PPE, discarded winter clothing, damaged extension cords, unlabeled containers of "stuff" – none of these belong in the bottom of the gang-box. Discard items that are no longer safe to use and replenish your supplies so they are available when needed.
- Rain water or melting snow accumulating on your roof or spilling out over your gutters is not a good thing. This is the season for water damage. Take a look at those roof drains, gutters, and downspouts. Make sure they are free of debris and in good condition to help avoid getting water in unwanted places.



May 2011

- Head back out to the shop and take a close look at the condition of your hand tools. Shovels with cracked handles, hammers with loose heads, screw drivers with broken handles – all of these and many more can cause worker injuries. Open up the mechanics tool box, check the tool crib, and don't forget about the hand tools on your service trucks. If you find a broken tool, take it out of service and get it repaired or replaced before someone gets hurt.
- This may be the time of year when you need to hire some additional workers. Statistics show that new, and often young, workers are the most likely to get hurt. Make a point of having the company owner personally sit down for 10 or 15 minutes with each new worker before they begin and explain the company's dedication to safety. Hearing it from the guy who signs your check makes a big impact.

June 2011

- Summer at last! Sunshine, warm weather and insects. Each year hundreds of workers are seriously sickened by insect bites and bee stings. A surprising number have severe allergic reactions and die. Make sure your first aid kits are equipped to deal with insect bites and that vulnerable workers have taken personal precautions to protect themselves.
- Summer nights are prime time for construction site burglaries. Thieves target construction site trailers because they are easy to break into, unattended, poorly lit, and often contain valuable items like computers, lasers, and power tools. Don't leave valuables in unprotected trailers overnight. Install exterior lighting and be sure to let the local police department know that you would appreciate it if they make periodic drive-bys of your job site.

Let's get all these in the out-box before next quarter!

2nd Quarter 2011

Construction Safety and Health Training Resources – New resources added this quarter

Listed below are a few construction safety resources that may assist with your training and compliance needs.

Builders Associations

Associated General Contractors (AGC) www.agc.org

Associated Builders and Contractors (ABC) www.abc.org

Codes and Standards

American Society of Mechanical Engineers www.asme.org

American National Standards Institute www.ansi.org

National Fire Protection Association www.nfpa.org

Occupational Safety and Health Administration (OSHA) www.osha.gov

Mine Safety and Health Administration (MSHA) www.msha.gov

Concrete Pumping Resources

American Concrete Pumping Association www.concretepumpers.com

Construction Contract Resources

Consensus Documents www.consensusdocs.org

The American Institute of Architects www.aia.org

Associated General Contractors (AGC) www.agc.org

Crane Safety Resources

The Crane Institute of America www.craneinstitute.com

The National Commission for the Certification of Crane Operators www.nccco.org/

Specialized Carriers and Rigging Association www.scranet.org

Electrical Safety Resources

Ericson Safety Products www.ericson.com

Salisbury Personal Safety Supplies & Dielectric Supplies www.whsalisbury.com

Ideal Electrical Tools and Supplies www.idealindustries.com

Martin Technical Arc Flash Assessment www.martinarcflash.com

Electrical Safety and Arc Flash Training <http://www.avotraining.com/>

Westex Incorporated FR Arc Flash Clothing www.westexinc.com

Lewellyn Technology Arc Flash Assessment www.lewellyn.com

Excavation Safety Resources

National Utility Contractors Association www.nuca.com

American Shoring www.americanshoring.com

Efficiency Products Inc. www.epi-shields.com

Planet Underground www.underspace.com

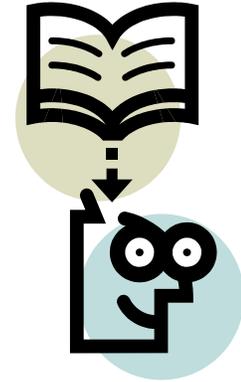
Personal Protective Equipment Resources

Salisbury Company www.salisburybyhoneywell.com

Lab Safety Supply www.labsafety.com

Conney Safety Supply www.conney.com

MSA www.msanorthamerica.com



Construction Safety and Health Training Resources - continued

Safety Associations

The Construction Safety Council www.buildsafe.org

The Construction Safety Association of Ontario www.csa.org

National Safety Council www.nsc.org

American Society of Safety Engineers www.asse.org

Center for Protection of Workers Rights www.cpwr.com

American Trainco www.americantrainco.com

Scaffolding Safety Resources

Safeway Scaffolds www.safeway.com

Waco Scaffolds www.wacoscaf.com

Scaffold Industry Association – www.scaffold.org

American Work Platform Training www.awpt.org

Scaffold, Shoring, and Forming Institute - www.ssf.org

Vehicle Safety Resources

The National Work Zone Safety Clearinghouse www.workzonesafety.org

Federal Department of Transportation MUTCD www.mutcd.fhwa.dot.gov

American Trucking Association www.atabusinesssolutions.com

General Casualty Insurance www.generalcasualty.com

Tool Box Meeting (answers) – Understanding PPE

Answers to tool box meeting from page 2.



1. False. A Type I hard hat will only protect you from overhead impact. It will not protect you from lateral impact. Construction workers should wear Type II hard hats for the most complete protection from impacts.
2. False. Personal protective equipment should be the last choice for protection. If your PPE fails and the hazard is still present, you will be exposed and possibly injured. Controlling or eliminating the hazards with engineering controls should be your first choice.
3. True. Workers need to be trained on the proper use of all types of personal protective equipment.
4. False. In addition to flying materials, a chop saw cutting metal parts will most likely product high levels of noise and hearing protection devices will be needed.
5. False. Dielectric gloves need to be tested every 6 months by the manufacturer or suitable testing lab. Holes that are invisible to the naked eye are dangerous and could allow current to pass through the glove and injure the worker.
6. False. Properly selected and worn fire resistive clothing will improve your chances of not being severely injured, however they do not guarantee that you will not be burned or injured if you are exposed to an arc blast.
7. False. The NRR list on the hearing protection device is calculated under ideal laboratory conditions. The NRR must be de-rated when used under other than ideal conditions. 7 must be subtracted from the NRR, and that number must be multiplied by .5 to get the actual NRR. By subtracting the adjusted NRR from the noise the worker is exposed to you can better determine the actual noise exposure.
8. False. Standard safety glasses do not provide adequate protection from liquids, vapors, and mists. Safety goggles would be a better choice.
9. True. It is the employer's responsibility to pay for and provide workers with the proper PPE.
10. False. Hazardous dust like silica and lead should never be blown into other work areas. Engineering controls like wet-methods or HEPA air filtration systems would be a better way to control the dust.

Looking for some free safety meeting topics?

www.toolboxtoics.com



Additional construction safety and health resources can be found on the General Casualty loss control services page. <http://www.generalcasualty.com/products-services/loss-control-services/construction-safety.aspx>

It is not our intention that this newsletter cover the requirements of the Federal Occupational Safety and Health Act or any other Safety or Health Act, or to infer or imply that there are no hazards and exposures in existence. The maintenance of safe premises, operation and equipment, and the avoidance of unsafe conditions and practices, and compliance with all statutes and laws are the sole legal responsibility of the insured. We assume no liability for the service provided. To the extent any referrals to service providers are included with this newsletter, please note that such referrals should not be construed as recommendations as we cannot provide any representation or warranties regarding work done by others. Further, we are not requiring that you use a listed service provider, you are free to choose from our referral list or another vendor to meet your needs.