

2013 Safety Meeting Book

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10 Rules for 10 Fingers

- Beware of pinch points. Train yourself to recognize pinch points and avoid placing your hands and fingers in such hazardous spots.
- Expect the unexpected. When using wrenches and other hand tools, with which you expect resistance, anticipate that the tool might slip or the object to which pressure is being applied may suddenly give way.
- Inspect tools. Check to see if they are in good condition and safe to use.
- Do not work on moving equipment. If the equipment can be stopped, do so. Working on moving equipment presents a real threat to hands and fingers.
- Replace machine guards following repairs that require removal of guards. The presence of machine guards is an important factor in keeping hands and fingers out of dangerous areas.
- Be mindful of equipment that starts automatically. Never work on such equipment without first eliminating the possibility of automatic startup.
- Deenergize equipment prior to working on it. Flash burns caused by electrical equipment shorting out is a threat to hands and fingers when work around such equipment is being performed.
- Be mindful when closing doors. Keep hands and fingers clear. Also, watch for children's fingers in the family car.
- Avoid touching lines or equipment that is hot. Every hot line or hot piece of equipment is a potential source of painful injury to any hand or finger that comes in contact with it.
- If the work being performed requires gloves, use them. Gloves offer protection from sharp objects, wood and metal splinters, acids, electrical burns, chemicals, and many other sources of injury.

ACCIDENT FACTORS

Accidents on construction projects cause too many painful injuries and claim far too many lives. Our primary concern when we discuss the factors or causes behind an accident is to find a way to prevent a recurrence. The cause of an accident can be found in two areas -- **Unsafe Acts** and **Unsafe Conditions**.

As a construction worker you control the first cause, **Unsafe Acts**. For example: a worker uses equipment that is defective or damaged, or they may use good equipment in a careless or other unsafe manner. Other examples of unsafe acts include disregarding posted warning signs, failure to wear a hard hat, smoking near flammables or explosives, working too close to power lines, handling chemicals or other hazardous materials improperly, putting your body or any part of it onto or into shafts or openings and lifting material incorrectly. (Just a short reminder -- always lift with your legs while keeping your back straight.)

The second accident factor or cause is **Unsafe Conditions** which can be found on many construction sites. Examples include inadequate or improperly installed guard rails or a lack of any guarding at all which most certainly will lead to an accident. Insufficient illumination, poor ventilation, electrical grounding requirements not observed, too few fire extinguishers available, containers that are not labeled, careless disposal of waste or excess material -- these are just a few of many unsafe conditions that may be caused by co-workers, subcontractors, or the general contractor.

You can make a difference by taking the time to perform your work safely and reporting any unsafe condition you discover to your supervisor immediately.

When the cause behind the accident is found, you'll find that safety on the job plays a major part in preventing that accident from occurring again. If everyone on the job cooperates, injury and death statistics will be reduced and it will be much safer for you to do your job.

Accidents - Learn the cause - Find the solution. Ultimately the jobsite and your job will be safer.

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ACCIDENT INVESTIGATION

An accident investigation is required whenever a serious incident happens on the job. The less time intervening between the accident and the investigation, the more accurate the information that can be obtained. Facts are more accurate because people have not had time to become biased by the opinions of others, memories are clearer and more details are remembered.

Why do we investigate an accident? The reason is to obtain accurate information about what happened. What events led up to the accident; who was involved with the work; did anyone fail to follow procedures or did a piece of material or equipment fail? This information will be used to develop a conclusion regarding the physical cause of the accident.

Conditions at an accident scene are the only things that change faster than the opinions that evolve when there is a delay in compiling the facts. Much evidence is lost because it is removed from or altered at the accident site before any notice of it is taken or any record made. The contact phase of an accident is brief and initiates a wide spectrum of activity. People responding to an accident generally react rather than respond. Injured people are moved or removed for treatment. Equipment and other items are moved about to assist in the treatment of the injured party, and to provide passage or restore work. Prompt arrival at the scene allows the investigator to observe evidence before it has been removed or altered.

Since we all learn from accidents, the investigation will help us bring all the facts together, your input and involvement will help to assure that the necessary steps are taken to try to prevent a similar occurrence. All of us can learn from our mistakes. Make an effort to detect any existing hazards or improper procedures and report them to your foreman or supervisor immediately. Accidents are unplanned events, near misses let us know that there is a potential problem, and thorough accident investigations help us prevent recurrences.

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ACCIDENT PREVENTION

As a construction worker you are part of a team of skilled professional craft workers, and accident prevention is part of your job. It takes everyone's effort to keep a jobsite safe. There are many things you can do to help prevent accidents. Come to work fully rested; wear proper clothing and sturdy footwear; jewelry, watches and rings must be left at home. Use the correct personal protective equipment when the task requires it, and keep this safety gear in good condition and replace it as necessary. Damaged or lost equipment should be reported to your supervisor. Keep your work area clean and neat. Don't let your housekeeping get out of hand.

Follow the warnings written on labels. Observe signs, regulations and procedures; ask your supervisor about any you don't understand. Never bypass safety valves or devices. Follow lock out - tag out practices where required to do so. Remove protruding nails or bend them over. Wipe up spills of oil, water, or grease. Keep walkways, aisles, traffic lanes and fire exits clear of debris and other materials. When working in new areas of the jobsite take a few minutes to look around to locate obvious hazards. Don't leave any floor openings unprotected. Cover floor holes securely or guard with standard guardrails. Make sure you have the right type and size of ladder. Climb it facing the rungs and be sure your hands are free to hold onto the ladder.

Check your electrical tools prior to use. Whenever possible plug into electrical outlets that are protected with GFCI'S. Do not use tools with split, broken, or loose handles. Watch out for overhead power lines. Store flammable liquids in approved containers. Shut off engines and let them cool down prior to refueling; and never smoke around flammables. Report any accidents to your supervisor. If you get injured get proper first aid and seek medical assistance if necessary. Keep your mind on your work. Drugs and alcohol don't have a place on the job. Horseplay and practical jokes cause accidents so keep them off the job. Practice accident prevention. Try your best to follow these guidelines and all of us will have a safer place to work.

**GIVE YOUR UNDIVIDED ATTENTION TO SAFETY. PREVENTING YOUR ACCIDENT
DEPENDS MOSTLY ON YOU!**

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Aerial Lift Safety

We have several aerial lifts (JLG, Snorkel, scissor lifts, articulating boom platforms, etc.) around our work. Today we're going to review some safety tips for those working in and around this equipment.

- As with other powered vehicles, inspect the lift prior to utilizing it. Walk around and ensure there are no leaks, check to ensure all the controls are functioning correctly.
- Never walk under the boom to gain access to the platform.
- Only utilize the lift on level ground.
- Only stand on the platform floor. Never stand or sit on the railing.
- Always look in the direction the machine is moving.
- Do not rest the boom or basket on a steel structure of any kind.
- Wear safety harnesses and tie-off to the manufacture provided anchorage point within the platform at all times when you're in the basket. This includes when you are lowered and moving the equipment to another location.
- Keep your hands the external portion of the basket when raising or lowering the basket.
- Ensure that a fire extinguisher is mounted in the basket when performing activities that present a fire hazard such as welding or grinding. Ensure you have a fire watch person below.
- Except in a case of an emergency, ground controls shall not be operated on an occupied lift (lift occupant shall be in full control of the lift at all times).

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ARC WELDING SAFETY

Safe and accident free completion of any welding operation should be the goal of all welders. Here are a few welding safety tips that will help you achieve that goal. Wearing proper eye protection is very important. Welders and their helpers should be sure to use the correct filter lens in their goggles or helmets to protect their eyes from infrared and ultraviolet light. (See 1926.102, Tables E-1 and E-2 for a guide to eye and face protection and filter lens shade numbers.)

Precautions for fire prevention must be taken in areas where welding is being done, for example, isolating the welding and cutting area and removing fire hazards from the vicinity. If normal fire prevention precautions are not sufficient, a qualified person should be assigned to guard against fire during the operation and for a suitable time after completion of the work, to ensure that no possibility of fire exists. Be sure that fire extinguishing equipment is available and ready for immediate use. In areas where heavy dust concentrations exist, or where flammable paints or other flammable materials are present, welding, cutting or heating can create a significant fire hazard. Proceed with extreme caution!

A noncombustible or flameproof screen should isolate the welding or cutting area to protect other workers in the vicinity from direct arc rays. Watch your slag; it could cause a serious injury to someone working below. I

If the electrode holder is left unattended, the electrodes must be removed, and the holder must be placed so that electrical contact cannot be made with another employee or any conducting object.

All arc welding and cutting cables must be completely insulated and capable of handling the maximum current requirements for the job. The insulation on any splice within 10 feet of the electrode holder must be equal to the insulation of the cable.

Review 1926.351 through 1926.354 for additional information

All welding and cutting operations in a confined space shall be ventilated to prevent the accumulation of I toxic materials or possible oxygen deficiency.

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BACKS

Have you ever given much thought to your back? It's there when you need it, but only if you don't abuse it. The back is made up of four major parts. The spine, nerves, muscles, and the spinal cord. There are thirty-three bones in the spine and thirty-one pairs of nerves branching out from the spinal cord. All of them must work together. If they don't, you could end up with anything from a strain to a ruptured disk, fractured vertebrae, and/or a debilitating disease like arthritis.

To help prevent a back injury you should exercise, practice good posture, eat the right foods, and watch your weight. Check with your doctor for muscle strengthening exercises for the back.

Other things you can do to prevent back injuries include using work-saving devices -- hand trucks, forklifts, wheelbarrows, and dollies can assist you. When you have an object to lift that is too heavy or bulky get help! Ask a co-worker for their assistance. Remember, two backs are stronger than one.'

Now, what can you do when you have to do some lifting? Check out the object to be lifted. Think about how you are going to grasp the load and make sure there is a clear path of travel so you won't stumble. Before you lift, stand close to the object, bend down at the knees and straddle it, get a good grip, and lift with your legs while keeping your back straight. The secret is to let your legs do the work.

It doesn't have to be a heavy load -- even a small, very light object lifted incorrectly can trigger a back injury.

Back injuries can be painful, disabling, paralyzing, and sometimes even fatal. Protect your back by following the guidelines above. You're here today -- we want you BACK tomorrow.

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Back Pain Prevention, Pushing

On occasion or perhaps even everyday, we're called on to push something. Typically it's safer to push than it is to pull a load, however doing either can be dangerous to your body. Many soft tissue injuries occur because we push or pull unsafely.

Today let's look at some techniques to use when you have to push on something. How we push a load is critical. We need to ensure we have good posture when we're exerting that type of force. Most of us can develop higher push forces by leaning our body weight into the load.

- For pushing, your hands should be between your elbow and hip.
- Square up to the load so you don't twist your body.
- Feet spread a little with good footing.
- If you can't push it easily with your body weight . . . get help.

Back pain Prevention, Lifting

Can you think of even one job or occupation where you never have to lift an object? I can't. Lifting of objects can range from very light objects such as a piece of paper, a pin or a pen to very heavy objects like loads of boxes. Lifting is very much a part of our every day jobs. And, because it is something we do so often, we tend to do it without thinking, or at least we do until we strain a muscle, or worse, hurt our backs.

Lifting incorrectly can result in a variety of injuries. Back strain is a very common one. It results from over-stretching certain muscles, but it can be avoided by practicing safe lifting techniques. A hernia is another injury associated with lifting. A hernia does not generally result from a single lifting effort. It is usually the result of continued extreme exertion, especially done contrary to the structure of body.

Don't underestimate the importance of being in good physical condition. Years of poor posture, overeating, lack of exercise, stress and improper lifting can catch up with you. Learn how your back works and what you can do to keep it strong. Ask for your physician's recommended stretching, warm-up, and reconditioning exercises; then practice them regularly.

Safe lifting plays an important role in keeping your back healthy. Although there doesn't seem to be just one right method to lift an object, there are lifting techniques that take strain off the low back area.

These techniques have several steps in common. They recommend you "size up the load". That is, look it over. Decide if you can handle it alone or if you need help. When in doubt, ask for help. Moving a box or other object that is too heavy for one person is not worth strained and sore back muscles.

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You should also "size up the area". Look over the area where you are carrying the object to, and make sure it is clear of obstacles before beginning to carry the object.

For that period of time spent lifting, the load becomes a part of your body. You support and propel the object while it is attached to you. This attachment should be firm and sure. Get a good grip.

Attaching yourself to a load will change your balance. To keep this change of balance to a minimum, keep the load close to your body, to your normal center of gravity between the legs, between the shoulders.

Good foot position allows you to keep your balance and bring into play the full power of your leg muscles. Leg muscles are more powerful and more durable than back muscles. Let your leg muscles do the work. Again, footwork is important once you avoid twisting your upper body. Use your feet to change direction. Don't twist your body. Twisting compounds the stress of the lift and affects your balance.

When you have someone helping you lift an object, teamwork becomes important. If you're going to be carrying the load to another point, both of you should decide in advance how it is to be handled. Check the route and clearance. One person should be the leader and be in a position to observe and direct the other. Lifting and lowering should be done in unison. Don't let the load drop suddenly without warning your partner.

Everyone has a way of lifting that seems most natural. Examine yours to see if you are using lifting techniques that reduce strain on your lower back. As the employee making the lift, you're being counted on to make lifts that are safe and comfortable for you based on the items we've discussed:

- Stay in shape
- Size up the load; ask for help, if needed
- Get a good grip
- Keep the load close
- Keep your balance with footwork
- Let your leg muscles do the work
- Don't twist your body

BLOODBORNE PATHOGENS - UNIVERSAL PRECAUTIONS

Bloodborne pathogens - universal precautions. Now that it a mouthful! Be glad you don't have to say it-quickly ten times in a row. OSHA has issued a standard that covers exposure to bloodborne diseases that we could be exposed to on the job. These include, but are not limited to, non-A hepatitis, non-B hepatitis, delta hepatitis, and human immunodeficiency virus (HIV or AIDS). This standard requires your employer to reduce the risk of a bloodborne disease being contracted on the job. Suggested methods to accomplish this include providing employee training, personal protective equipment, engineering controls when possible and demanding good housekeeping practices on the job.

You may be asking yourself how in the world you are going to be exposed on the job. The most probable way is when an accident occurs. A co-worker might cut a hand open with a skill saw and look to you for help. In the past you would have jumped right in and given assistance and wouldn't care if you got any blood on yourself. Today is different. That type of exposure could lead to serious problems down the road for you. Some statistics estimate that 1 in every 200 Americans now carries the AIDS virus.

First of all, THINK before you rush to the rescue. Universal precautions today tell you to wear gloves, protective eyewear, and use a one way mask ventilation device or resuscitation bag. Your equipment must be free from any defects. Keep in mind a few rules to insure that your protective gear does the job. Your gloves must fit; your equipment must be appropriate for the job; you must be properly trained by your employer, and before leaving the accident area, you must remove all protective equipment and place in a container for washing, disposal, or decontamination.

A good place to carry a pair of disposable gloves is your hard hat. Put the gloves in a zip lock plastic bag and tape inside your hat. Should an emergency occur, you will always have your gloves with you.

AVOID UNPROTECTED MOUTH-TO-MOUTH RESUSCITATION ALWAYS USE A MASK.

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BRIDGE WORK

Bridges provide us with a way to travel over water, across highways, railroad tracks and the like. Whether it's a bridge repair, replacement or new construction, do you know what the number one hazard to workers is? Concrete or steel, a long or short span, the greatest danger during bridge construction is the possibility of failing from one level to another.

Before you step out on the form work, walk a steel beam, climb a sheet pile, or work on a scaffold, think about the exposures there are. **PREVENT FALLS** - watch your step, wear your fall protection equipment, use it correctly and always tie off. **WATCH FOR FALLING OBJECTS** - always wear your hard hat, be aware of cranes moving material and equipment in and out of the area, and watch out for pinch points and crushing areas. **HOUSEKEEPING** - clean up and remove trash and scrap promptly. **LADDERS** - use a safe one, make sure it is the right size for the job and is always secured before climbing. **PERSONAL PROTECTIVE EQUIPMENT** - must be worn including hard hats, eye protection, fall protection, even special foot wear may be required. If in doubt, ask your supervisor. If you are working over water you are required to wear a life jacket.

ADDITIONAL SAFETY NOTES - Cover protruding rebar to prevent any worker from becoming impaled. Keep scaffolds free from tripping hazards. Be alert for slippery conditions due to oil, water, loose gravel or sand. If you have to work along a public roadway, stay inside the barricades, make sure you don't become a hood ornament on a passing vehicle. Limit the amount of flammables out in the work area. Have adequate fire extinguishers available. Protruding nails left in form material can cause serious cuts and bruises, pull them out or bend them over. Never throw an object or tool to another worker. As with any other work, check all electrical and hand tools prior to use. Look out for the new person on the job.

Bridge work changes every day -- what was there yesterday may have changed dramatically today. Keep a sharp eye out for the unexpected. Don't take chances. Safety is everyone's business.

TIE OFF AS REQUIRED TO AVOID UPPER LEVEL FALLS. ERECT GUARD RAILS AS WORK PROGRESSES. STAY ALERT AND WATCH YOUR STEP!

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BUCKLE UP - SAVE A LIFE

"Belt your wife - save her life", "Click it or ticket", and "Buckle up – it's the law", are a sayings we've heard frequently over the years.

Seat belts were first offered by U.S. automobile manufacturers in the early sixties. Those pesky old belts have been around for 40 years now but we still see people operating motor vehicle without them. The National Safety Council reports in their 1992 Accident Facts edition that 43,500 motor vehicle deaths took place in 1951; 3,500 of these deaths happened at work. The cost of these motor vehicle accidents was an astronomical 96.1 billion dollars! Many of these injuries and deaths could have been prevented if those involved had taken time to "buckle up".

Studies by the National Highway Traffic Administration show that manual lap and shoulder belts are effective in preventing fatalities, 50% effective in preventing moderate to critical injuries, and 10% effective in preventing minor injuries. In early 1992 over 40 states had enacted mandatory safety belt use laws, but studies show that only 55% of the motoring public wear their seat belts.

Many new cars and trucks are now equipped with supplemental restraint systems (SRS), better know as air bags. For the SRS to be effective the operator and/or the passenger must be wearing their seat belt to fully benefit from the air bag.

You may think of many reasons why you don't or can't wear your belt -- "they're uncomfortable", 'what happens if I'm knocked unconscious and can't get out", "hey, I'm only going to the store, nothing will happen", or "never had an accident so I don't need a belt" -- all of these are just excuses and indicate plain stupidity or a very poor safety attitude.

Remember, YOU are the ONLY ONE to make the decision whether you do or don't buckle up. On or off the job, start the new year by making every trip a safe one by buckling up, and insisting that all passengers in your vehicle do the same. Who knows, the life you save may be your own!

IT'S A PROVEN FACT - SEAT BELTS SAVE LIVES - BUCKLE UP!

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CHEMICAL INVENTORY

One part of the Hazard Communication Standard is the chemical Inventory. Most chemicals in the construction industry fall into four categories. FLAMMABLES, CORROSIVES & IRRITANTS, COMPRESSED GASSES, and TOXIC AGENTS. Typically we would find most of these around our work site.

Can you think of any FLAMMABLES that are used? Of course, the main one is gasoline, used to fuel various small engine pumps, generators, concrete mixers, tampers, etc. We also use diesel fuel to operate most of the heavy equipment. CORROSIVES may be found in the cleaners that are used in concrete cleaning. Battery acid used in batteries is also very corrosive. Can you think of others?

COMPRESSED GASSES are used in many construction operations. Anytime we use a cutting torch there are two compressed-gas cylinders. Oxygen and acetylene are the main fuel, but we also use argon and nitrogen. Do you know of any others?

TOXIC AGENTS are also found. Benzene chromium and MEK (methyl ethyl ketone) to name a few. Are you aware of other agents in use on your job?

Many chemicals come and go on the jobsite as various trades use them in their individual work. Written inventory of the different chemicals is required by Haz Com and should be readily available to all employees. The list must be updated each time another chemical arrives on site. The inventory should include all chemicals, whether stored in cans, bottles, tanks or other containers. Remember, cleaning fluids, solvents, waxes, paints, disinfectants,, copy toner, oils, gas, diesel and lubricants are all chemicals. Don't overlook the obvious.

It is a good practice to keep this inventory at the job office or trailer or with the supervisor. Should a question arise about a particular chemical on site all you need do is go to the office or your supervisor to review the inventory and the appropriate MSDS for the chemical in question.

**CHEMICALS CAN BE VERY DANGEROUS! KNOW WHAT YOU'RE USING AND WEAR
REQUIRED PROTECTIVE GEAR**

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Close Calls

Close call incidents do not often result in injuries.

However, ignoring a close call means you could be paving the way for a serious injury to happen. You must report all close calls so they can be investigated and the hazard removed before someone does get hurt. For every reported first aid or minor injury, there are on average hundreds of close calls incidents that have gone unreported.

Close calls (also known as near misses) are situations in which a worker has a narrow escape from getting hurt. The worker probably feels lucky about getting away uninjured. If we pay attention, these incidents can be lucky in another way: They provide a preview of an injury that could happen, so measures can be taken now to prevent it.

Here's an example: A carpenter's assistant picks up a power drill and gets a slight electric shock. He quickly drops the tool, suffering no injury. At this point, he has an important choice to make. If he just forgets the incident, the next person to pick up the tool may have damp hands or may be standing in a puddle of water. That person is bound to get a severe shock. However, if the incident is reported, the tool will be removed from service, checked over and either repaired by qualified personnel or discarded. There will also be a chance to find out why this tool became defective. Was it poorly designed or manufactured? Has the insulation been allowed to get wet or is the cord frayed? How can problems be avoided in the future - perhaps by buying better tools, taking good care of them and inspecting them regularly?

Here's another example: A process industry technician starts to turn on the wrong control, almost creating a hazardous mix of chemicals. He catches his error in time, and no harm is done. Again, at this point he has two choices. He can shrug it off, or he can talk to his supervisor about the close call he just had. He may be able to keep another worker or even himself from making the same mistake and causing a chemical accident. An investigation may disclose a flaw in the design of the controls, making such errors likely or it may show the operators are distracted by fatigue, noise or other factors.

Being aware of near misses off the job can also help prevent accidents. If you have a close call driving in traffic, take the time to review what happened, and why and how you could avoid such problems in the future. If you slip while you are walking, check to see why it happened. A review of the incident might prevent broken bones from a fall in the future.

If you have a near miss, consider yourself lucky on two counts: You didn't get hurt, and you have the chance to prevent a future accident for yourself or someone else.

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Cell Phones

Los Angeles – September 2008

A commuter train that failed to stop for a red signal resulted in the nation's deadliest commuter train wreck in the last 40 years. Grieving relatives of the dead and injured learned that this horrendous tragedy was caused by a Metrolink engineer who ran a red light.

The fatal mistake put the train on a 40-mph, head-on-collision course with a Union Pacific freight train, resulting in 25 people dead, another 135 injured, twisted wreckage, mangled steel, smoldering metal, and scattered belongings.

When the train ran the red light, it triggered an emergency signal. A warning call was sent to the train from a Metrolink dispatch center, but it was too late, the call was answered up by a surviving crew member seconds after the crash who said the crash had already happened.

Two teenagers had told a local television station they had been exchanging text messages with the engineer just prior to the collision. Early investigation results indicate the engineer was text messaging and missed the red light indicating the train needed to stop and to allow another train to utilize common tracks ahead.

This tragic story highlights that the use of cell phones while doing other tasks can have deadly consequences. Whether you're driving or working in a production environment, the use of a cell phone distracts your mind and sometimes your eyes away from the task at hand. Even though Metrolink had a policy forbidding the use of cell phones while working, the engineer ignored it.

How about you?

If you need to utilize your cell phone only use it out of the production area... take the call, but get out of the way!

Colors of Safety

As you drive down the road you'll see all sorts of signs and many different colors. We know that red signs typically indicate a mandate such as STOP or YIELD and yellow signs typically indicate a warning. Safety signs have a color scheme also.

The American National Standards Institute (ANSI) has established rules that define what certain colors mean. This standardization helps people to easily recognize and understand what message the sign or equipment is communicating. Some colors are:

Red

- Fire protection equipment
- Danger, high risk of severe injury or death
- Emergency stops and alarms

Orange

- Hazard warnings
- Moderate risk of injury
- Guarding devices

Blue

- Notice of information
- No immediate hazard

Green

- Safety equipment or information
- First-aid equipment or location

Yellow

- Caution statements
- Minor risk of injury
- Material handling equipment

It's important to know the colors of safety when you're working around equipment.

COLD WEATHER SAFETY

Summer and fall are gone and the winter months are upon us. Even though it's cold outside we still have to work and get the job done. There are several things we can do to keep warm and prevent cold weather related accidents.

The first thing we want to do is to keep our body temperature at or about normal, 98.6F. This can be accomplished by wearing layers of clothing both inside and outdoors. Wear cotton or lightweight wool next to the skin and wool layers over your underwear. Keep dry by having proper rain gear available and a pair of good, waterproof boots. An extra pair of clean, dry socks can really come in handy. Don't forget to protect your neck and ears; you can lose a lot of heat from these two areas, and a good pair of gloves is essential.

Do you know the signs of frostbite? our skin will become white and you won't have much circulation. In the worst case, blisters will form but you won't feel any pain. First aid for frostbite is as follows: NEVER rub the frozen part of the body with snow -- Add extra clothing or use a blanket to cover the frozen area -- get out of the cold and into a warm location -- the frozen area may be immersed in warm water but NEVER use hot water -- if the condition does not improve seek professional medical attention.

Another area of concern during cold weather is the use of portable heaters. If they are not maintained properly they can cause accidents. Carbon monoxide can result from defective ventilating and from incomplete fuel burn. All portable heaters should be checked by a competent person before being put into use. Locate fuel containers, regulators, piping and hose where they will not be subject to damage. LP gas containers not in use should be stored upright, in a specified outside location and protected against damage. Containers in use must be kept in an upright position and secured. Always be sure to protect the valves from physical damage.

Cold weather is here to stay for a few months -- keep your guard up against cold weather injury.

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Compressed Air

Compressed air is often misjudged and not recognized as a hazard because people often think of air as harmless. CAUTION: SERIOUS INJURY MAY OCCUR!

Did you know...

Air forced into body tissues through the skin can cause an air embolism (air bubbles in the blood stream) which can be fatal if it reaches the heart, lungs, or brain.

- Inflation injuries of the intestine can be caused by air being directed at private body areas. A worker in the U.K. died of injuries sustained through horseplay with a compressed air hose. This act of horseplay can be deadly!
- Air blown into the mouth at only 5 PSI can rupture the esophagus or the lungs.
- Eye and ear injuries can occur from a blast of air or flying particles. These types of eye and ear injuries can cause partial or total loss of sight or hearing.
- The sound from a compressed air hose can reach 120-130 dB which is well above OSHA's 90 dB permissible exposure limit.
- 40 PSI can blow out an ear drum from 4 inches away and possibly cause brain damage.
- As little as 12 PSI can blow an eye out of its socket!
- Flying particles can cause cuts and bruises to any part of the body.

REMEMBER –

- Hoses and lines should be rated to meet the maximum operating pressure of the equipment
- Always wear proper Personal Protective Equipment:
 - Safety glasses with side shields and a face shield if needed
 - Hearing protection
 - Respiratory protection, depending on the material(s) being worked with
- Normal work clothing is not protection against compressed air
- If you must clean with compressed air, do not use air that is set above 30 PSI. You must also have effective chip guarding and proper PPE (OSHA standard 1910.242(b))
- NEVER USE COMPRESSED AIR TO CLEAN CLOTHING OR HAIR!
- NEVER POINT COMPRESSED AIR AT YOURSELF OR ANOTHER PERSON!

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Chainsaw/Chopsaw Safety

Operating a chain saw is inherently hazardous. Potential injuries can be minimized by using proper personal protective equipment and safe operating procedures.

Before Starting a Chain Saw

- Check controls, chain tension, and all bolts and handles to ensure that they are functioning properly and that they are adjusted according to the manufacturer's instructions.
- Make sure that the chain is always sharp and the lubrication reservoir is full.
- Start the saw on the ground or on another firm support. Drop starting is never allowed.
- Start the saw at least 10 feet from the fueling area, with the chain's brake engaged.

Fueling a Chain Saw

- Use approved containers for transporting fuel to the saw.
- Dispense fuel at least 10 feet away from any sources of ignition when performing construction activities. No smoking during fueling.
- Use a funnel or a flexible hose when pouring fuel into the saw.
- Never attempt to fuel a running or HOT saw.

Chain Saw Safety

- Clear away dirt, debris, small tree limbs and rocks from the saw's chain path. Look for nails, spikes or other metal in the tree before cutting.
- Shut off the saw or engage its chain brake when carrying the saw on rough or uneven terrain.
- Keep your hands on the saw's handles, and maintain secure footing while operating the saw.
- Proper personal protective equipment must be worn when operating the saw, which includes hand, foot, leg, eye, face, hearing and head protection.
- Do not wear loose-fitting clothing.
- Be careful that the trunk or tree limbs will not bind against the saw.
- Watch for branches under tension, they may spring out when cut.
- Gasoline-powered chain saws must be equipped with a protective device that minimizes chain saw kickback.
- Be cautious of saw kick-back. To avoid kick-back, do not saw with the tip. If equipped, keep tip guard in place.

CONCRETE AND MASONRY CONSTRUCTION

Let's review some of the safety requirements for concrete and masonry construction. Do not place any loads on any portion of a concrete structure until your employer has determined that it is capable of supporting those loads. This determination must be based on information provided by someone who is qualified in structural design [1926.701(a)].

All protruding reinforcing steel, onto and into which someone could fall, has to be guarded to eliminate the hazard of impalement. (Note: It should be understood that the little plastic end caps commonly found on rebar do not prevent impalement; they are there primarily to prevent injuries from occurring while handling there bar. And the orange caps without the steel embeds may not prevent an impalement injury.)

Do not ride on or in concrete buckets. A loaded bucket weighs about as much as a full-sized pick-up truck -- you certainly wouldn't want to be under one if it fell. Employees are not permitted to work under concrete buckets while they are being raised or lowered into position -- so make sure that you don't. Plan the route for elevated concrete buckets so that as few employees as possible are underneath them.

Formwork must be designed, fabricated, erected, supported, and maintained so that it is capable of supporting all loads, vertical & horizontal, that may be applied to it

If a masonry wall over 8 ft. high is not adequately supported by itself or another structure then it has to be braced to prevent it from tipping over or collapsing. You have to keep that bracing in place until the wall is permanently supported by the rest of the structure. A limited access zone must be established before starting to construct a masonry wall. The zone must be 4 ft. wider than the height of the wall, run the entire length of the wall, and be on the unscaffolded side of the wall. Only those employees who are actively engaged in constructing the wall may enter the zone. The limited access zone must remain until the wall is adequately supported to prevent overturning or collapse.

WET CONCRETE CONDUCTS ELECTRICITY, SO BE ALERT WHEN USING BULL FLOATS; CONTACT BETWEEN THE FLOAT HANDLE AND ELECTRIC WIRES COULD BE DISASTROUS.

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CONCRETE PLACEMENT

Prevent concrete related injuries and illnesses by zeroing in on its chemical makeup, its extreme weight, and placement hazards.

Concrete is a mixture of small and large aggregate (usually sand and gravel) bonded together with cement and made flow able with water. In addition, there are a wide variety of chemical additives used to improve or alter the mix for special applications. When water is combined with cement an alkaline chemical called calcium hydroxide is released, which upon contact with your skin, will absorb moisture as it burns and destroys the skin tissue. In addition to this chemical hazard, you should be aware of any other chemicals in the mix, Understand their dangers, and know what personal protection requirements are needed.

When working with a standard concrete mix, wear a hard hat, safety glasses or goggles, clean long pants and a shirt with long sleeves and a tight neck, high boots and chemical resistant gloves. Remember, concrete burns can vary depending on your skin sensitivity, but they are always dangerous and require the same immediate treatment as do other burns.

At approximately two tons per cubic yard, concrete weight alone can be dangerous -- when positioning loaded concrete trucks, be alert for underground structures, loosely backfilled areas and excavation banks -- when using a crane and bucket, always make a test lift to ensure that the crane can handle the load at the maximum reach -- when placing concrete on suspended form work, avoid off balance and impact loading -- good posture and balance are important when wheeling, dumping and shoveling concrete to avoid hernias, back injuries, etc.

Placement hazards -- never get underneath or ride on a concrete bucket and stay clear of tight locations where a swinging bucket could cause a crushing injury. Make sure that all tools and cords are electrically safe when working around wet concrete and when using a crane and bucket or pump truck, be alert for overhead wires.

WHEN UNFOLDING OR ADDING TRUCK CHUTES KEEP YOUR FINGERS FROM BETWEEN THE HINGED SECTIONS TO PREVENT THEM FROM BEING SMASHED OR SEVERED.

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CONCRETE

Concrete is a mixture of cement, water, and aggregates, and often one or more additives. It is used on just about every construction project - footings, caissons, foundations, slabs on grade, walls, curbs and gutters to name just a few. Some safety issues need to be addressed when working with concrete. Fresh, portland cement concrete is highly alkaline (caustic), and can cause skin irritation and burns. You know how uncomfortable it feels if you've ever suffered a concrete burn. Here are a few precautions to take to avoid needless pain and injury:

KEEP CEMENT PRODUCTS OFF THE SKIN -- protect yourself by wearing boots, gloves and appropriate clothing. If you get any in your boots be sure to wash it out and change into clean, dry socks.

WASH YOUR SKIN PROMPTLY -- after contact with concrete. A good and convenient water source is the water tank on a concrete delivery truck.

KEEP CEMENT PRODUCTS OUT OF YOUR EYES -- by wearing the proper type of protective eye wear. Certain jobs require goggles, others full face shields, some need only regular safety glasses. **KEEP CHILDREN AWAY** -- children and fresh concrete are a dangerous mix. Prevent unnecessary injuries or even worse by watching, or barricading against their curiosity.

KEEP A SHARP LOOKOUT FOR BACKING MIXER TRUCKS -- they carry tons of concrete and should you get too close you can be crushed or run over.

WATCH FOR PINCH POINTS -- concrete chutes have been known to amputate a finger or fingers in just a split second. Special attention must be given when loading or unloading chutes.

CHECK HAND TOOLS -- shovels, concrete rakes, vibrators, come-alongs, bull floats, kelly floats, etc. all have the potential of causing an injury if not kept in good repair.

CHECK INTERNAL VIBRATORS -- for broken electrical components.

LOOK OVERHEAD FOR LOW POWER LINES -- metal parts, float handles, tools and dump chutes need to avoid these wires.

Follow these guidelines and your concrete pour should be completed without incident.

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CONCRETE

Do you know how much concrete weighs? A cubic yard (3 feet by 3 feet by 3 feet) weighs 4000 pounds! That's 2 tons, more than twice the weight of the average small car on the road today. Think about that when a concrete truck is placed next to an excavation. All that weight plus the load shift during mixing will cause a super imposed load on the sides of an excavation or trench and could result in a cave-in. Be on guard during any concrete placement.

When pouring concrete be sure that you wear the proper personal protective equipment. Rubber boots are a must to prevent you from getting lime burns on your feet and ankles. If you get wet concrete on your socks change them immediately to prevent concrete burns. Your eyes also need protection. Goggles will provide you with excellent coverage.

Another area that has potential for serious injury is when a concrete chute is raised or lowered at the rear of a concrete truck. Always keep your fingers out of pinch points. On'e slip can mean the loss of fingers or even a hand. The same thing applies any time an extra chute is added to the truck. Watch where you put your hands and get help to lift the add-on chute.

Pinch points are all around concrete buckets. Never ride a bucket and make sure that no one is working under the load. If the crane or pump truck operator cannot see the pour be sure to use a qualified signal person. When placing concrete with a bucket, know the capacity of the crane, don't overload. A test lift is advisable. Avoid swinging the bucket near power lines. Contact with an energized power line can kill or injure.

When applying curing compound to concrete wear the right personal protective equipment. Chemical additives can cause burns. Check the appropriate MSDS sheet with your supervisor. Also remember that wet concrete conducts electricity. All tools and cords must be grounded, and don't allow metal bull float handles to come in contact with electrical wiring or light bulbs.

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CONFINED SPACES

A 'confined or enclosed space' means any space having a limited means of access and egress, which is subject to the accumulation of toxic or flammable contaminants, has an oxygen deficient atmosphere, or could possibly cause suffocation due to entry of liquids, granulars, etc. or harm from corrosives, acids, etc.

Confined or enclosed spaces include but are not limited to storage tanks, process vessels, bins, boilers, ventilation or exhaust ducts, sewers, underground utility vaults, tunnels, pipelines, and open top spaces more than 4 feet in depth such as pits, tubs, vaults and vessels.

Caution is a must! Only fools will rush in and this means rescuers as well. If in doubt, check with your supervisor. Always be sure to follow the host employer's requirements. New OSHA rules require that the employer follow specific procedures before anyone enters a confined space.

The responsible host contractor or employer and your supervisor, using standard tests, must determine if ventilation or atmospheric conditions within the space are hazardous, and whether any special safety equipment is required such as protective clothing, respiratory equipment, etc. Once this has been done make sure that everyone going into the confined space is familiar with exactly what work is to be done. Everyone involved must know what to do should an emergency take place. In other words, be prepared for the unexpected! In addition, a competent attendant; trained in rescue procedures, C.P.R. and first aid must remain outside and stay in constant contact with those inside.

If the owner's policies and procedures concur with OSHA regulations, and we in turn follow these requirements, confined space work should be done accident free. Remember, confined spaces are dangerous. Look out for yourself as well as your co-workers. Before you jump in, check it out!

ALWAYS CHECK THE AIR INSIDE A VESSEL BEFORE YOU ENTER ONCE YOU'RE INSIDE IT'S TOO LATE! CHECK FOR OXYGEN CONTENT, FLAMMABILITY OR AN EXPLOSIVE ATMOSPHERE.

Complacency

Webster's Dictionary defines complacency as:

self-satisfaction especially when accompanied by unawareness of actual dangers or deficiencies

Complacency is perhaps one of the biggest problems we face in completing our day to day tasks. We are "used" to things being a certain way each time and unless the obvious comes right out and hits us . . . we can be oblivious to it all. This is state of mind can affect many things such as productivity, quality and safety.

Here is an example:

According to a research study at Cambridge University, it doesn't matter in what order the letters in a word are, the only important thing is that the first and last letter be at the right place. The rest can be a total mess and you can still read it without problem. This is because the human mind does not read every letter by itself, but the word as a whole.

You probably didn't have much trouble reading that paragraph. It probably took you back at first, but then you were able to zip right through the text and understand the content. This is an example of how complacency works with our mind. We get used to words starting with certain letters and being a certain length and we skip right over it "thinking" we know what the word is.

In reading paragraphs it's not a big deal . . . however when it comes to safety, complacency can be a literal "killer" on the job. Each moment we are working with hazardous energy, whether it be a large production machine, forklift, automobile, power tools, electricity or even walking from one end of the facility to the other, we must keep focused on the task at hand.

There is much danger in going into "autopilot" when working on the job. All too often we don't realize how complacent we are until we have a near miss or close call. Those events tend to jump start our hearts and focus our attention . . . at least for a little while, on the task at hand.

One technique found to be effective in battling complacency in your own actions is to watch the actions of other while they work. This has a dual-fold effect in that it raises your awareness as you examine the actions of a coworker as they are working and it may raise your coworker's awareness if you share with them some of the observations you made that would allow them to do their job in a safer manner. It can be a win-win.

Try this technique today as you are working and feel yourself going into the complacent state of auto-pilot. You'll find it truly can work well . . . for everyone.

2013 Tool Box Meetings

CPR

Cardio pulmonary resuscitation, or CPR for short, is the best form of artificial resuscitation. In the old days we were taught to use the back pressure arm lift method when someone stopped breathing. We did not have a method to make the heart keep pumping blood. CPR has been around for over twenty years now, and yet we still find people who do not know how to use this life saving procedure.

Let's talk about when to use CPR. If there is an accident on the job where a worker is injured, loses consciousness and stops breathing, or perhaps simply has a heart attack, the first thing that you need to do is call for help. That means someone needs to dial 911 or another posted number to obtain outside emergency medical help. Next you need to make sure the area around the victim is safe, so take a quick look. If the area is ok, then you can go ahead -- but if it's not safe -- don't attempt a rescue! We don't need any dead heroes.

When you first get to the victim you must see if the injured party responds. Tap them on the shoulder lightly and ask them, "Are you ok?" If they respond, tell them that you are there to help them. If there is no response then you must check the ABC'S. Check their Airway, check for Breathing, and then check for Circulation. If you find that there is no pulse present then need to start CPR. When administering CPR a rescuer maintains a steady flow of oxygen and circulates the blood for the victim. CPR should only be given by someone who has completed the training. Once you start this rescue method don't stop until relieved by a medical professional.

Many people around the world are alive today because someone took the time to learn how to give CPR. Training is available through the American Red Cross, the YMCA, various Rescue Squads and the National Safety Council, just to name a few. Are you qualified? If not, enroll in a course soon.

NEVER MOVE A VICTIM THAT YOU SUSPECT MAY HAVE A NECK OR BACK INJURY

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HAND SIGNALS FOR CRANE OPERATIONS

The following are the most commonly used hand signals for directing crane lifting operations. Some special operations may require adaptations of these basic signals. When using hand signal be sure the operator can see you and that both of you understand all the signals. You and the operator are in charge of an important operation. Co-workers lives depend on your skills. A wrong signal could cause a serious injury or possible death. **THINK SAFETY!**

HOIST -- Extend the right arm straight out and raise the forearm to vertical, forefinger pointing up, then move hand in small horizontal circle.

LOWER -- Extend the right arm downward, forefinger pointing down, then move hand in small horizontal circle.

RAISE BOOM -- Extend right arm straight out, fingers closed and thumb pointing upward.

LOWER BOOM -- Extend right arm straight out, fingers closed and thumb pointing downward.

SWING -- Extend right arm away from body, point with finger in direction of swing of boom.

STOP -- Right arm extended down with wrist bent and palm down and open.

EMERGENCY STOP -- Right arm extended, palm down, then move hand rapidly right and left.

TRAVEL -- (both tracks, crawler cranes only) Use both fists in front of body, making a circular motion about each other to indicate the direction of travel - forward or backward.

DOG EVERYTHING -- Clasp hands in front of the body.

RAISE BOOM & LOWER LOAD -- Extend right arm with thumb pointing up, then flex fingers in and out as long as load movement is desired.

LOWER BOOM & RAISE LOAD -- Extend right arm with thumb pointing down, then flex fingers in and out as long as load movement is desired.

As for the rest of us on the job, stay alert when working near any crane operation. Avoid working under a moving load -- stay clear of the counter balance -- and always remember that the crane operator's vision may be obscured; be on guard for your own safety.

KEEP ALL PARTS OF A CRANE, FALL LINES, HOOK, BLOCK, AND LOAD A MINIMUM OF 10 FEET FROM ALL ELECTRICAL LINES

Identifying Fatigue

Fatigue is the condition of being physically or mentally tired or exhausted. Extreme fatigue can lead to uncontrolled and involuntary shutdown of the brain.

Here are some things to look for in your co-workers to help identify fatigue. Everyone needs your help, because in most cases, people who are under significant fatigue can't identify it themselves. These include:

- Their job performance slows.
- Their job quality is reduced.
- They can't recall their last thought, conversation, or what they did a moment ago.
- They have trouble solving problems.
- They make errors.
- They have a near-miss accident.
- They have trouble focusing.
- The head droops.
- They can't stop yawning.

When you're fatigued **you will make errors in judgment**. Your mind or eyes can be off task and you can make a critical error. When fatigue sets in, a bad decision is just around the corner!

CRANES AND OVERHEAD WIRES

There are many dangerous situations on a construction site, but operating hoisting equipment close to overhead wires is more than just dangerous, it's a matter of life and death! The following guidelines should help us prevent potentially deadly contact:

Keep cranes a safe distance from power lines. For lines rated 50 kV or below, minimum clearance between the lines and machines or loads must be 10 feet plus 0.4 inch for each 1 kV. over 50 kV., or twice the length of the line insulator, but NEVER less than 10 feet.

Use a qualified signalperson when the crane is within boom's length of a line. The signalperson must warn the operator when the machine is approaching the lines since the operator may not be able to accurately judge the distance. The signalperson should have no other duties while the machine is working near the power line.

Do not rely on ground rods for safety. They provide little or no protection. People touching the crane or load will still draw enough current to kill, even with the best ground rods in place. In addition, don't rely on proximity warning devices, hook insulators, insulating boom guards, swing limit stops, etc. as each has serious limitations.

Except for the operator, keep all personnel away from the crane when working near power line. Don't allow anyone to touch the load, crane, or crane hook until the signalperson indicates that it is safe to do so. Exercise caution when working near overhead lines having long spans. These tend to swing laterally in the wind and contact can occur.

Use caution when moving cranes. Uneven ground can cause the boom to weave or bob into lines. Ensure a route is plainly marked when cranes must travel beneath power lines. 'Rider' poles should be erected on each side of the crossing approach to guarantee that the boom will be lowered to a safe position. Avoid using tag lines except when it is possible for the load to spin into the power line. All rope will conduct electricity.

DUMP TRUCKS & OVERHEAD WIRES SPELL DANGER, TOO! BE ALERT IN INDUSTRIAL AREAS & NEAR TEMPORARY POWER LINES

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DON'T NEGLECT CUTS

Infection is often called 'Blood Poisoning'. It might be of interest to know exactly what is meant by 'Blood Poisoning'. The term itself indicates that it is a poisoning directly related to blood.

There are two ways in which a poison can attack our bodies. It may be taken in through the mouth and enter the body by way of the digestive organs, or it may enter directly into the blood stream through an abrasion or cut in the skin. In any event, every poison eventually works through the blood and the poison of infections works into the blood stream directly.

The smallest cut, abrasion or scratch is large enough for germs to enter. If they are not wash off they will cause an infection which could lead to blood poisoning. If left untreated, a hand or arm could become so infected that it might possibly have to be amputated.

Should you find yourself with a small scratch or cut be sure to get it washed out and properly covered with a clean bandage. 'An ounce of prevention is worth a pound of cure'. Serious cuts and lacerations need to be treated by professional medical personnel.

Most often you'll run up against smaller injuries - burns, nicks, scratches and cuts. The danger here is that most workers don't bother to get first aid for these minor injuries. The bottom line is - DON'T NEGLECT CUTS. Do your part by trying to prevent them from happening in the first place, but when any injury occurs - serious or minor - be sure that it receives the right kind of treatment, as quickly as possible.

First aid kits must be checked, frequently to be sure they are clean and fully stocked. This applies to your home and car or boat as well as on the job.

KEEP MINOR INJURIES MINOR! FIRST AID TREATMENT IS IMPORTANT TO PREVENT INFECTION.

2013 Tool Box Meetings

DRESS FOR THE JOB

Our clothes and footwear are our first line of defense when it comes to protecting our bodies. Each day we wear our work clothes for eight, ten and sometimes even more hours, and there is nothing worse than working in uncomfortable clothing and/or poor fitting footwear. Although your work clothes are very important to your safety and health, your comfort is also a consideration. You need to have clothes that are right for the job. They must be sturdy and durable, and capable of standing up to heavy wear and tear. You need clothes that will keep you warm in winter and cool in the summer, and that will keep you dry in wet and inclement weather. We all know that it's easier to take off a layer of clothing than not have enough on in cold weather. Wool works best in the cold while cotton is superior during the warm months. In other words, wear clothes that you can work in comfortably and that are designed for the kind of work you do and the weather in which you must do it.

Proper footwear is another important part of construction attire. Wear the right shoe or boot for the job. A good sturdy leather boot will last a long time and also provide your feet with good support throughout the shift. Since you are on your feet most of the time, make sure the shoe or boot fits correctly. Tennis shoes have no place on a construction site -- one reason is that protruding nails and tennis shoe soles just don't mix.

If you wear jewelry, watches or rings remember that they can be very dangerous around machinery and electricity. Take them off and put them in your pocket, or better yet, just leave them at home! Many a construction worker has lost a finger or two from wearing rings on the job. Use common sense and dress for the job you do -- leave jewelry at home, wear appropriate clothing and sturdy footwear, and your workday will be a safer and more comfortable one.

SET A GOOD EXAMPLE FOR OTHERS AND TREAT SAFETY AS ONE OF YOUR MOST
IMPORTANT JOB RESPONSIBILITIES

Additional Topics Discussed:

2013 Tool Box Meetings

DRINKING & DRUGS - NOT ON THE JOB

All of us know that certain drugs are illegal, and that drinking or drug use can lead to both physical and mental impairment, and also that state and federal laws prohibit or regulate the use of drugs and alcohol. Catchy phrases such as 'Drinking and driving don't mix', 'Just say no to drugs', 'MADD, Mothers against drunk driving' and 'D.A.R.E. to keep kids away from drugs' serve as reminders and warnings of the dangers associated with drug abuse and the irresponsible use of alcohol. We also need to be concerned about those who use these substances on the job.

The nature of our work demands total concentration on what we are doing. One slip could cause a serious injury or even death -- and the victim could be you or a co-worker. Certainly the jobsite is no place for anyone using drugs or alcohol. Construction activities require employee alertness -to constant changes on the site and the ability to follow safe work practices to prevent accidents.

Experts suggest that 14% of workers use some type of substance on the job, and that 50% of those users try to sell drugs to other employees. Drug and alcohol users are more prone to have accidents, reduced productivity, increased tardiness and absenteeism, and poor quality work.

It is up to you to avoid becoming a statistic, and to make your workplace safe and productive. If you suspect that a co-worker is abusing alcohol and/or drugs, don't help them continue their habit, speak to your supervisor. Covering up a problem can lead to a potential incident and innocent workers could be hurt due to the impaired actions of a person who is a drug user or one who has a drinking problem. Many companies now offer an 'Employee Assistance Program' designed to help their employees 'kick the habit' -- or your supervisor may refer them to programs in the community where they can get help and counseling.

If you are a drug user, GET HELP! If you abuse alcohol on or off the job, GET HELP!

The holidays will soon be here. Don't allow substance abuse to destroy the joy of the season.

EVERYONE LIKES TO HAVE A GOOD TIME, BUT WHEN ALCOHOL IS INVOLVED, BE SURE TO APPOINT A RELIABLE DESIGNATED DRIVER BEFORE THE PARTY STARTS!

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ELECTRICAL GROUNDING

A good electrical Grounding program means a safer workplace. Correct ground-fault protection requires the use of either Ground Fault Circuit Interrupters or an Assured Equipment Grounding Conductor Program. We will discuss the Assured Equipment Grounding Conductor Program today. This program covers cords, receptacles that are not part of the permanent wiring of a building, and equipment connected by cord and plug, which may be available for use or used by employees. Each quarter we remind you to be sure to do your required electrical check.

There are two tests required by OSHA. One is a continuity test to ensure that the equipment grounding conductor is electrically continuous. It must be performed on all cords & receptacles that are not a part of the permanent wiring. This test can be accomplished with a continuity tester. The other test is on receptacles and attachment caps or plugs to ensure that the equipment grounding is connected to its proper terminal. All of these tests are required before first use, after any repairs, after any suspected damage may have occurred, and at quarterly intervals. Any equipment in need of repair shall be taken out of service until repairs have been made.

OSHA regulation 1926.404(b)(1)(iii) requires that a written description of the employer's program be available at the jobsite for inspection. The required equipment inspections, tests, and test schedule must be recorded, and the record maintained until replaced by a more current record. The employer must designate a competent person to maintain the program. Electrical equipment noted in the program must be inspected for damage or defects before each day's use and defective equipment must be taken out of service immediately. Many companies find that using a different colored tape each quarter to identify which electrical tools and other equipment have been inspected or tested is very effective. A log should be kept listing each tool by name, manufacturer and serial number, also all cord sets, and receptacles not a part of the permanent wiring, and the date and type of inspection and the results should be recorded.

Any program is only as good as those using and maintaining it. Be sure to check your equipment.

**ALL EXTENSION CORDS MUST BE GROUNDED. IF THE GROUND PRONG IS BROKEN OFF,
TAKE THE CORD OUT OF SERVICE**

2013 Tool Box Meetings

ELECTRICAL PATH TO GROUND MISSING

How many times have you found the ground prong missing from an electrical tool or extension cord? Your answer is probably "Too many". OSHA regulation 1926.404(f)(6) requires that the path to ground from circuits, equipment, and enclosures shall be permanent and continuous. Many times on a construction site, due to the frequency and severity of use, electrical equipment that was originally designed and provided with an electrical path to ground is not capable of transferring 'fault current' to ground because the ground prong has been accidentally or intentionally broken off. The electrical path to ground, sometimes known as the 'ground wire', is provided to transfer the 'fault current' to ground in the event that an exposed part of the piece of equipment is energized by the 'hot' conductor or wire in the system. In the case of an electric drill motor it might be energized by the 'fault current' if the internal windings came in contact with the case. If this happened and the equipment ground was not continuous, the path of least resistance from the drill to the ground would be through the user's body.

The hazards of not having a continuous ground are numerous, including electrical shock with injuries ranging from minor burns to death, and the possibility of a fire or explosion. Electrical shock is often the initiator of other types of injuries, from employees being shocked and falling from elevated places, to others who have been hurt when struck by a hand held tool that was dropped when the user was shocked.

It is important to recognize the value of always inspecting your electrical equipment prior to use for defects, such as ground prongs, frayed cords, cracked tool casings, etc. which indicate that the tool should be taken out of service. And don't forget to mark the defective tool with a tag to prevent another worker from grabbing the tool and using it. Another safety measure is to try to use a double insulated tool whenever possible. These tools protect the user from 'fault current' Double insulated tools must be distinctively marked.

**TO PREVENT ELECTRICAL SHOCK AND ASSOCIATED INJURIES USE A QUALIFIED
ELECTRICIAN TO MAKE ALL ELECTRICAL REPAIRS**

2013 Tool Box Meetings

ELECTRICITY

There's a widespread but mistaken idea that 110 volts can't seriously injure or kill a person. Each of you should think about the dangers of low voltage electricity, especially if you use portable electric tools. The possibility of death from electric shock doesn't depend entirely on the voltage of the power supply. It also depends on the resistance of the human body, which varies greatly among individuals, and on the conditions under which a person is working. It takes only 1/10 of an AMP TO KILL YOU!

One cause of electric shock when using portable electric tools is the failure of the insulation between the current-carrying part and the frame of the tool. When insulation fails, fatal electric shock, severe burns, or even a fall from one level to another may result.

Electricity always tries to reach a ground potential and will always take the path of least resistance. If the outer metal shell of a defective tool becomes energized, the operator sets up a direct path through his own body between the energized tool and the ground itself. The ground can be the earth or it could be pipes or steel building structures that are in contact with the earth. Body resistance is lowered when you work in wet areas or sweat heavily; electricity can then flow easily through vital regions of the body.

When you work in a wet area, near a water pipe, grounded tank, or reinforcing rods that may be grounded, be extra careful to keep yourself as dry as possible. Stand on a wooden platform or use rubber boots. In places where tools may become wet, use only tools that are designed especially for that type of service.

Keep portable electric tools in good condition through the use of a regular inspection program. It is your responsibility to inspect your tools prior to use. Check both tools and cords and turn in any tool that needs repair as soon as you see any defect.

THERE'S NO EXCUSE FOR UNSAFE EQUIPMENT. REMEMBER, IT ONLY TAKES 1/10 OF AN AMP TO KILL YOU!

2013 Tool Box Meetings

EMERGENCY! WHAT WOULD YOU DO?

What would you do? That question should make you think. Your answer could mean the difference between life and death for a co-worker. Emergency, Rescue 911, Code Red, Squad 51, and for the old timers Rescue 8 are all TV shows that deal with real life emergencies. Are you prepared for the unexpected? Do you know what to do? Do you know who to call for help? Are you qualified to help? If you answered "yes" to these questions - great! However, if you answered "no" then you need to pay special attention to today's safety meeting.

No matter what your position at the construction project, you need to know what to do in the event of an emergency. Your life and the lives of your co-workers could depend on your training and knowledge. If you are the first one on the scene, you need to protect yourself from any hazards. For example, precautions may need to be taken to deal with blood or other body fluids, gas leaks, and power lines. You don't want to become another victim. Stay cool, don't panic, and call for help. Contact 911, local emergency officials or a jobsite emergency response team. You are the main link between the emergency and the outside world. Secure the area and keep co-workers and others out of the area unless they are trained to provide assistance.

If you are qualified to give emergency care, protect yourself first. Make sure you wear your universal PPE (Personal Protective Equipment - gloves, goggles, and a one way mask.) Talk to the victim. Check your ABC'S: Airway, Breathing, and Circulation. If the victim is not breathing start CPR (Cardio-Pulmonary Resuscitation). If the person is bleeding apply direct pressure to the wound.

Emergencies are unplanned events. They come unexpectedly and may involve you. What will you do if an emergency occurs? Find out who to call and know where a telephone is. Learn the locations of fire extinguishers and first aid kits, and make sure you know how to use them. Learn and understand emergency procedures and evacuation routes for the jobsite. Be prepared for the unexpected. Do it now. Don't wait until after the emergency to learn what to do. Ask your supervisor if you have any questions.

You may need to help save a life tomorrow! Is your first aid training up to date? Check for classes in your area today!

2013 Tool Box Meetings

EXCAVATIONS #2

Excavation and trenching cave-ins result in more than 100 fatalities annually in the United States. Too often an improperly protected trench or excavation wall will collapse, trapping workers. These accidents can be eliminated if we follow proper excavation and trenching procedures. OSHA Construction Standards for Excavation can be found in Subpart P 1926.650-.652.

An excavation is any mechanically-made cavity or depression in the earth's surface, from cellars to highways. A shoring system, sloping of ground, or some other equivalent means must be used to protect all employees exposed to danger from moving ground in all excavations. In addition, all trenches over 5 feet deep in either hard and compact, or soft and unstable soil must be sloped, shored, sheeted, braced or otherwise supported. Trenches less than 5 feet in depth must also be effectively protected when hazardous ground movement may be expected.

Any surface encumbrances which may create a hazard to employees shall be removed or supported, as necessary, to safeguard employees. The presence of all underground installations such as sewer, telephone, fuel, electric, or water lines shall be determined prior to opening an excavation.

There are three ways to protect against accidents. Protective systems include shoring, sloping, and a trench shield or box. Shoring is a structure such as a metal hydraulic, mechanical, or timber bracing system that supports the sides of an excavation. A shoring system may include sheeting, bracing or jacks. Sloping is accomplished by cutting the banks of the excavation back to the angle of repose. At this angle the soil won't slide. This angle varies, and depends on the soil type. A trench shield or box is a heavy metal box designed to be placed in a trench; it prevents the sides of the trench from caving in. Trench boxes are used in many types of sewer and pipeline work.

A competent person must inspect the excavation and adjacent areas daily for possible cave-ins, failure of protective systems, hazardous atmospheres, or any other condition which may present a hazard.

Excavations 4 feet deep or more must have sufficient means of exit and these must be within 25 feet of lateral travel.

2013 Tool Box Meetings

EXCAVATIONS

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2013 Tool Box Meetings

EYE PROTECTION

Let's take a short elementary test. Can you tell me how many basic senses there are and can you name them? Taste, smell, hearing, touch and sight. Of the five, which is the one that we depend upon the most? You guessed it -- it's sight. Everything we do involves the use of our eyes and God only gave us two. How many times have you said or heard -- "He should have worn his safety glasses." -- or -- "If I had been wearing my safety glasses I wouldn't have injured my eye." -- Too many times!

Eye protection begins with the ability to recognize those times that eye protection is needed, and then, to seriously commit to wear the protection whenever necessary. Anytime you're working where there is the potential for flying particles eye protection is required. When using a saw, drill, pouring concrete, chipping, blasting or handling chemicals just to name a few. Dirt, dust, rust, rock, bits of concrete, etc. are all potential dangers in construction work.

Should a member of your crew get something in their eye seek proper medical attention right away. The longer it stays in the worse it gets. No one but a professional should attempt to remove a foreign body from the eye. Cover the eye lightly with a clean pad and either wait for medical help to arrive or take the employee to a doctor.

Don't forget that eye protection is also needed when using chemicals. Make sure you're using chemical goggles and a splash shield. You may need to flush the eyes should they come in contact with the chemical. Emergency first aid procedures are discussed in the Material Safety Sheet for the particular chemical. Let's wrap up what we've learned. Eyesight is precious -- and -- irreplaceable. Don't take chances with your vision -- wear eye protection!

**WEAR SAFETY GOGGLES AT HOME, TOO, WHEN USING POWER TOOLS, PAINTING,
CHOPPING WOOD, ETC.**

2013 Tool Box Meetings

THE 'EYES' HAVE IT

One of the greatest assets we have is our eyes, giving us the ability to see. What would it be like not to see loved ones or the colors and wonders of our world, to be unable to drive? Take a moment, close your eyes and FEEL the darkness! It's a scary feeling not being able to see.

A construction project, worksite, or just your own work at home - all have many eye hazards. A minor injury can turn into disaster if the injury is to your eyes. OSHA regulation 1926.102 (a) states: "employees shall be provided with eye and face protection equipment when machines or operations present potential eye or face injury from physical, chemical or radiation agents". Here are just some of the possible dangers that could damage your eyes -- particles in the air, harmful vapors, hot metal, sparks, chemicals, light rays from welding, and flying objects.

There are various types of eye protection -- safety glasses, face shields, chemical goggles, welding hoods, burning goggles, etc. Each has a particular level of protection. Safety glasses give you a general overall means of protection. Under some circumstances combinations can be worn to give you the best protection. For example, you would want to wear chemical goggles and a splash shield if you were working with acid.

In this OSHA standard, Table E-1, 'Eye and Face Protection Selection Guide' shows eleven types of safety eyewear. Each has a specific protection factor. The table is broken down into three areas, Operation, Hazard's, and Recommended Protectors. All you have to do is look under the operation list and match your task, or locate the hazard you're dealing with under the hazard column and it will tell you what protection is required.

If you have any doubt whether you need eye protection ask your supervisor. Unless they meet ALL safety requirements, your eyeglasses or sunglasses may not be used as a substitute. And remember, safety glasses are only good if you WEAR THEM! If you keep them in your pocket or on top of your-hard hat they won't do the job.

**WEAR YOUR SAFETY GLASSES - SAVE YOUR SIGHT! ONE UNGUARDED MOMENT COULD
RESULT IN A LIFETIME OF DARKNESS**

2013 Tool Box Meetings

EYE SAFETY

Some 150,000 disabling eye injuries occur each year. Eye injuries can occur in any operation and in any work area, including offices. All too often we take our eyesight for granted and figure that we'll always have it. We treat our eyes as though we can get replacements. How many home runs could Hank Aaron have hit if he had lost the sight in one or both of his eyes? How well would you be able to do your job if you were blind? There are two important issues to consider; first, you need to have the proper eye protection, second, you need to USE IT!

People who wear glasses usually become so accustomed to them that without much thought they clean them, carry them in their pocket or purse so they are handy, and wear them when they are needed. Unfortunately, few of us are this mindful when it comes to eye protection, and too often we forget it. Some safety glasses and goggles grow dusty from lack of use as their owners trust luck to protect them from an eye injury.

The most common complaint about eye protection is that it's uncomfortable. Protective eye equipment must be carefully fitted and then worn correctly. It may take some time to adjust to wearing goggles or safety glasses, but it will take much longer to adjust to losing your eyesight. If your goggles or glasses give you a headache, adjust the frames or straps or consider a new pair. Straps used to hold goggles or glasses in place should be adjusted to provide just enough tension to hold them securely. During hot weather, a sweatband will keep perspiration off your goggles or glasses and out of your eyes. Take time to clean your goggles or glasses so they do not interfere with your vision. Don't touch the lenses with your fingers, and keep them away from anything that could scratch or pit them.

Protective eye protection extends beyond keeping bits of debris out of your eyes. If you are working around welding or cutting operations special lenses may be required to protect your eyes from the bright, intense light. Chemicals also pose a hazard to your eyes; make sure you use eye protection and splash guards when handling chemicals.

Your employer will provide eye and face protection when machines or operations present the potential for eye or face injury. See 29 CFR 1926.102 for more information and a selection guide for proper eye protection.

2013 Tool Box Meetings

FALL PROTECTION

OSHA has released a final rule covering FALL PROTECTION in the construction industry. Does this new standard cover you as a construction worker? You bet it does! It is called Subpart M and the effective date was February 6, 1995. The procedures specified in this new standard are intended to prevent employees from falling off, onto, or through working levels, and to protect them from falling objects.

The new standard stresses three types of protection to be used for fall protection. They are GUARDRAIL SYSTEMS, SAFETY NET SYSTEMS, AND PERSONAL FALL ARREST SYSTEMS. It's up to your employer to determine which method is going to be used when an employee is on a walking or working surface, horizontal or vertical, with an unprotected side or edge which is 6 feet or more above a lower level. This includes floors, roofs, ramps, bridges, runways, etc., but not ladders, vehicles, or trailers, on which employees must be located in order to perform their job. Leading edges, residential construction and precast concrete erection may be exceptions to the rule. In these cases the employer must have a qualified person develop a written fall protection plan for the specific area in which this type of work is being performed. The plan must be maintained and kept up to date.

As a construction worker you also need to know that the subpart does NOT apply when employees are making an inspection, investigation, or assessment of workplace conditions prior to the actual start of construction work, or after all construction has been completed.

In addition, Subpart M specifies that as of January 1, 1998, body belts are not be acceptable as part of a personal fall arrest system, (Note: the use of a body belt in a positioning device system will be acceptable.) The use of a non-locking snaphook as a part of personal fall arrest systems and positioning device systems will be prohibited. What this means to you is that non-locking snaphooks and body belts are a thing of the past in the construction industry. Workers will be using full body harnesses with locking snaphooks for fall arrest systems. .

THE NEW STANDARD REQUIRES EMPLOYERS TO TRAIN EMPLOYEES, RETRAIN THEM WHEN EQUIPMENT OR SITE CHANGES OCCUR, AND CERTIFY AND DATE THE TRAINING.

2013 Tool Box Meetings

FALLS - CAUSES AND CURES

Has this thought ever crossed your mind? The only way to be safe from falls is to avoid them! Avoidance is the key word. Let's explore just a few of the factors contributing to falls and their serious results. Here are some to think about.

Scaffolds - Never erect a temporary scaffold. Even if the job will only last a very short time, the scaffold should be erected as if you were going to use it indefinitely. Make sure you install all the cross braces both vertically and horizontally, be sure the scaffold is built on a level surface and fully decked, and don't forget to provide proper access.

Ladders - Select the right ladder for the job. Is it the right size, did you tie it off, did you inspect it prior to use? Always face the ladder when you climb and avoid carrying tools in your hands when climbing -- one slip could send you down -- use a hand line or pouch for the tools. Never stand on the top two steps.

Floor Openings - Any floor opening measuring 12 inches across or larger must be covered or protection provided by a standard guard rail with toeboard. A cover must be large enough and strong enough to prevent failure and be marked so that everyone on the job will be aware of its purpose. Guard rails must meet minimum strength requirements (See OSHA Standard 1926.500). Toeboards will prevent tools or materials from falling through the opening and injuring workers below.

Stairways - Slow down -- don't run up or down. Avoid carrying objects that block your view of the steps. To help eliminate falls on stairways take your time, look where you step, and use the handrail. Keep stairways free of clutter to prevent tripping.

Housekeeping - A secure footing is a positive step in avoiding falls and good housekeeping is essential to secure footing. Debris, trash, oil and water left to accumulate on stairs, walkway etc. will lead to certain falls. A clean worksite is a safer worksite.

Watch your step! Stay alert! Avoidance and prevention is your first line of defense.

BE ON THE LOOKOUT FOR SLIPPERY SURFACES AND WALKWAYS. WINTER'S FROST, SNOW & ICE INCREASE YOUR CHANCES OF SLIPPING.

2013 Tool Box Meetings

FALLS

Falls are the leading killer in the construction industry. How many times have we read about a worker who was killed from a fall at a job site? Fall protection rules are becoming more strict. Whether you are an employee or an employer, you need to know the rules.

Subpart M - Fall Protection sets forth requirements and criteria for fall protection in construction workplaces. Your employer must determine if walking/working surfaces on which you work have the strength and structural integrity to support you safely. Each walking/working surface with an unprotected side or edge, 6 feet or more above a lower level, where employees are working must be protected by a guard rail system, safety net system, or personal fall arrest system. A fall arrest system consists of an anchorage, connectors, a body harness, and may include a lanyard, deceleration device, lifeline, or suitable combinations of these. The use of a body belt for personal fall arrest, and the use of non-locking snap hooks are prohibited as of January 1, 1998; body belts will only be allowed as positioning devices. Employees must also be protected from falling or tripping, into or through holes or skylights by the systems mentioned above or by secure covers. Hole or skylight covers must protect workers from falling objects as well. As a construction worker you will be required to be trained by your employer to recognize all hazards of falling, and what steps need to be taken to minimize or eliminate these hazards. On leading edge work, precast concrete erection, and residential construction, that an employer determines cannot meet the requirements of the standard, because it is infeasible or would create a greater hazard, the employer has the option to develop a 'site specific' fall protection plan. The plan must meet the requirements of paragraph (k) of Standard 1926-502.

This subpart does not apply when employees are making an inspection, investigation, or assessment of workplace conditions prior to the start or after completion of all construction work.

DON'T BECOME A 'FALL' STATISTIC! LEARN ALL YOU CAN ABOUT PREVENTION AND ALWAYS USE FALL PROTECTION GEAR.

2013 Tool Box Meetings

FIRE EXTINGUISHERS

Fire prevention and good housekeeping go hand in hand for obvious reasons, not only on the job- site but in the home and office as well. Fires can start anywhere, at anytime, and this is why it's so important to know how to use a fire extinguisher correctly, and also to know which extinguisher to use for different types of fires.

CLASS 'A' FIRES - These fires consist of wood, paper, rags, rubbish and ordinary combustible materials, the kinds of materials typically found on a construction site.

RECOMMENDED EXTINGUISHERS - Water, through use of a hose, pump-type water cans, pressurized extinguishers, and (ABC) dry chemical extinguishers. **FIGHTING THE FIRE** - Put lots of water on the fire and soak it completely, even the embers.

CLASS 'B' FIRES - These consist of flammable liquids, oil and grease. **RECOMMENDED EXTINGUISHERS** - (ABC) dry chemical type, foam, and carbon dioxide. Any of these will do a good job extinguishing the fire. **FIGHTING THE FIRE** - Start at the base of the fire and use a sweeping motion from left to right always keeping the fire in front of you.

CLASS 'C' FIRES - are electrical fires, usually dealing with some type of electrical equipment **RECOMMENDED EXTINGUISHERS** - Carbon dioxide and (ABC) dry chemical type. **FIGHTING THE FIRE** - Use short bursts on the fire. When the electrical current is shut off on a "Class 'C' Fire, it can become a Class 'A' Fire if materials around the original fire are ignited.

CLASS 'D' FIRES - Combustible metals. **RECOMMENDED EXTINGUISHERS** - Special agents approved by recognized testing laboratories. **FIGHTING THE FIRE** - Follow the fire extinguisher manufacture's recommendations.

Post emergency phone numbers at each telephone, on the job and at home.

THE KEY TO ALL FIRE EXTINGUISHERS IS KNOWING HOW TO USE THEM BE SURE THEY'RE ALWAYS AVAILABLE IN YOUR WORK AREA, IT'S TOO LATE TO GO SEARCHING FOR ONE WHEN A FIRE BREAKS OUT

2013 Tool Box Meetings

FIRE PREVENTION

This may sound like a contradiction, but the problem with fire prevention on a construction site is the absence of a problem. Fires do not occur with frequency or regularity and therefore workers are not particularly concerned about them. Another word for this is complacency, an environment in which danger grows and thrives. It is extremely difficult to motivate someone to take an active interest in fire prevention when the person has never been involved in a serious fire and when they face other, imminent hazards on a daily basis. This leads to the common misconception that fire prevention is someone else's problem.

Almost every construction worker has at one time or another seen someone injured by a fall or being struck by an object. Very few have seen a person burned in a fire, or seen valuable property and months of work reduced to smoke and ashes.

We need to be reminded regularly of the ever-present danger of fire. We need to know the different types of fires and extinguishers. Briefly, electrical or flammable liquid fires require an extinguisher rated BC. Use a water extinguisher only for Class A fires (wood, paper etc.). A dry chemical extinguisher rated ABC is for all classes of fire. Aim at the base of the fire and move the nozzle from side to side in a sweeping motion. If the fire continues, evacuate everyone from the area and call the fire department.

Observe all 'NO SMOKING' signs, especially near flammables. Make sure the area is free from all combustibles when burning or welding. Place all construction debris in the proper area for disposal. Know where fire extinguishers are located.

A fire today could mean loss of life, loss of a job, personal injury or property damage. Are you doing your part to prevent one? Check both your job and your home for fire hazards.

2013 Tool Box Meetings

FIRE PROTECTION

Don't get burned! Protection is the name of the game. We need to protect ourselves, co-workers tools and equipment, storage trailers, and the location where we work and live in case of fire.

Protection begins with planning who is going to call the fire department should there be a fire. Is the fire department's emergency phone number posted next to the telephone? Are there fire extinguishers available in our work areas? Is there one in the job truck? Is there a full extinguisher in the job office trailer? Do you have extinguishers and smoke alarms at home?

Are flammable liquids stored in approved containers? When using a cutting torch take steps to make sure the surrounding areas will not catch fire by removing all combustible materials.

What about housekeeping? Does the job clean up all work areas on a daily basis, or do you wait until the areas are cluttered with all kinds of combustible material?

Are 'No Smoking' areas posted so all workers know not to -smoke in areas where flammable liquids or containers are stored?

Part of your protection plan should be to know where all fire exits are! Do you know the one closest to your work area? Do you have a back-up exit in case the first one is blocked? Do you have an escape plan at home?

Smoke alarms on the job and at home should be tested monthly. Replace batteries twice a year. Remember, protection starts with you. You must plan what to do, -who to call and where to go should a fire break out. You must also do your part by storing flammables properly and smoking only in safe areas.

It doesn't take much for a small fire to become a killer. With proper training and knowledge you can protect yourself, your workplace and your home.

EMERGENCY NUMBERS' NEED TO BE POSTED AT EACH TELEPHONE. DO YOU KNOW WHAT NUMBERS TO CALL FOR FIRE, POLICE OR AMBULANCE?

2013 Tool Box Meetings

FIRST AID FOR BURNS

Just the thought of being a burn victim, is most unpleasant - but - as a construction worker you know that there are many opportunities for burn injuries to occur every day. Your job can bring you into contact with hot surfaces, flammable liquids, gasoline motors, torches, welding equipment, portable heaters, chemicals, electricity, and the sun and wind, all of which can cause burns. All burns are painful and the danger of infection must be addressed. Most burns require professional medical attention.

First Degree Burns - affect the outer layer of skin such as sunburn or contact with a hot object. The skin will be red and sore. First aid treatment: apply cold water to the burned area or submerge the area in cold water. Apply a sterile dressing. Second Degree Burns - affect the entire outer layer of skin and may penetrate deeper. The skin usually blisters. These burns are caused by a bad sunburn, contact with hot liquids, or burns from gasoline for example. First aid treatment: apply cold water as you would for a first degree burn, or use a cold pack, or cover the burn with a cold, wet dressing. Don't break blisters or use ointments, antiseptics, etc. Seek professional medical help. Third Degree Burns - penetrate both layers of skin and are very serious! Contact with flames, burning clothing, or electricity can cause third degree burns. First aid treatment: if clothing is on fire, drop and roll the victim to extinguish the flames, cover burn area with a sterile dressing, never use cold water, ointments, antiseptics, etc. Get medical help at once!

Here are a few tips to prevent burn accidents:

Keep sparks and open flames away from combustible and flammable materials.

Practice good housekeeping - dispose of scrap materials promptly and properly.

Always keep chemicals in their original containers with labels, and use chemicals safely, check the MSDS and use caution when pouring hot liquids - even that morning cup of coffee.

Observe all electrical codes - lock-out/tag-out energy sources before working on machinery or equipment. Cover live electrical panels and post warning signs.

2013 Tool Box Meetings

FIRST AID

WHAT WOULD YOU DO if a co-worker called and said someone was injured? Have you taken first aid training so you would KNOW what to do? The construction industry is a leader in accidents and the injury rates continue to be high, so knowing basic first aid is a must.

Always call the posted emergency phone number so outside professional help is on the way. The following is a list of helpful hints when first aid is needed.

1. Act promptly but not hastily -- look for breathing and airway obstructions, and check -for bleeding and/or broken bones.
2. Start mouth to mouth resuscitation if necessary, and don't forget to use a one way mask.
- 3 Stop the bleeding -- a snug bandage or a pressure dressing will usually stop the bleeding. Use direct pressure, not a tourniquet. Avoid direct contact with blood -- use gloves.
4. Look for shock -- skin cold and moist, weak pulse, face drained of color and fainting. Wrap the victim in blankets, have them lay down and try to calm them.
5. Caution, handle with care -- a person with a suspected neck or back injury should not be moved until professional rescue personnel are on the scene. Assist them if requested.
6. Splint broken bones -- a splint can be made from any firm object that is long enough to reach beyond the broken bone. Immobilize the joints above and below the break.
7. Never give liquids to an unconscious victim.
8. Bandage wounds to help protect against infection -- the wound should be covered with a sterile dressing before the bandage is applied.
9. Remember to wear universal precaution protective equipment.

Forgotten what you learned a while back? Resolve to upgrade your first aid skills. Contact your local Red Cross Chapter or Rescue Squad, they have regularly scheduled courses covering FIRST AID and CPR.

BE SURE YOUR FIRST AID KIT IS FULLY STOCKED AND CONTAINS UNIVERSAL PRECAUTION PROTECTIVE EQUIPMENT. AN EMPTY KIT WON'T HELP ANYONE!

2013 Tool Box Meetings

FIRST DAY ON THE JOB

Whether you've been in the business for many years or you're a new employee, there's always a 'First Day on the Job'; a new project for you old timers, which may or may not be different from your last job, and for some of you, a brand new job.

Your safety on any job is important, so let's discuss the types of personal protective equipment you need to use. Hard hats are designed to protect your head, and statistics prove that they prevent most serious head injuries -- WEAR YOURS! Eye protection is required when there is any possibility of an eye injury -- safety glasses, mono goggles and cutting goggles will protect your eyes but they must be WORN, not carried in your pocket. Other types of protective equipment include hearing protection, respirators, harnesses, lifelines, and proper work clothes. All of these are important to your safety and should be used as required.

Good housekeeping is a must! Make sure you keep your work area picked up and dispose of trash as needed. Keep aisles and walkways clear of obstructions. Always inspect your electrical and hand tools prior to use. If you find anything wrong or damaged, let your supervisor know and tag the tool 'NEEDS REPAIR - DO NOT USE'. When you are required to use a ladder check it out -- inspect it for any damage -- make sure it's the right size for the job -- and never stand on the top two rungs or steps. If you're using a metal ladder keep a sharp eye out for overhead power lines -- coming in contact with them can be deadly!

Have a right to know what hazardous materials are in use on the job. Copies of material safety data sheets are available and should be reviewed if you have any question about the handling or protective gear necessary when using any hazardous material. Always read the label on containers so you know what you're using.

The bottom line is that your safety is a top priority, whether you're an old timer or new on the job. Think 'SAFETY FIRST', wear protective gear as required, use common sense and good judgement, and check with your supervisor if you have any questions or concerns.

2013 Tool Box Meetings

FLAG PERSONS

We are not talking about someone who raises the American Flag each morning or takes it down in the afternoon. In construction, a flag person is best known as the worker or workers who manage traffic flow along a highway or street when road repair is underway. There are also flag persons who are responsible for signaling crane operators, truck drivers when dumping loads, for hoisting operations, etc. These people must be knowledgeable in the use of correct hand signals.

In either case a flag person has a great deal of responsibility. For roadwork they must be easily visible to traffic and must be able to direct traffic around the work the crew is doing. When flagging traffic they should try to position themselves in such a way that there is some type of barrier between them and the traffic if at all possible. This will give them some protection should they need it. They must be sure their signals can be clearly seen by oncoming traffic. Stop and slow paddles work very well. The red or orange garment provided must be worn at all times and must be made of a reflectorized material if work continues into the evening hours.

OSHA Standard 1926.201 Signaling requires - (1) When operations are such that signs, signals, and barricades do not provide necessary protection on or adjacent to a highway or street, flag persons or other appropriate traffic controls shall be provided. (2) Signaling directions by flag person shall conform to American National Standards Institute D6.1-1971, Manual on Uniform Traffic Control Devices for Streets and Highways. (3) Hand signaling by flag persons shall be by use of red flags at least 18 inches square or sign paddles, and in periods of darkness, red lights. (4) All flag persons shall be provided with and shall wear a red or orange warning garment while flagging and at night shall be of a reflector type material

If you as a flag person have any questions about your flagging duties, check with your supervisor before beginning your shift. If you need a break, let your supervisor know so a replacement can take over your position.

REMEMBER, YOU ARE THE ONLY ONE BETWEEN THE TRAFFIC AND YOUR CREW!

FLAMMABLE & COMBUSTIBLE LIQUIDS

A 'Flammable Liquid' is defined as any liquid having a flash point below 140°F and having a vapor pressure not exceeding 40 psi at 100°F. A liquid with a flash point at or above 140°F (60°C) and below 200°F (93.4°C) is a 'Combustible Liquid'. You will find both of these liquids on most construction sites. Two of the most common liquids we use are gasoline and diesel fuel. Each has a flash point of less than 140°F and therefore is classified as a flammable liquid. For easy reference -- the flash point of a liquid is the temperature at which it gives off sufficient vapor to form an ignitable mixture with air, near the surface of the liquid or within a vessel.

Here are a few safety guidelines that you should remember when handling flammable or combustible liquids. Store and handle them in APPROVED containers. NEVER smoke around these liquids. Post 'NO SMOKING' signs on liquid petroleum tanks. While in storage, fuel gas cylinders and oxygen cylinders must be separated by a minimum distance of 20 feet, or with fire resistant barriers. Fuel storage tanks must be guarded to prevent damage from vehicular traffic. Fire extinguishers need to be properly distributed around the worksite and kept free from obstructions.

Are you trained in the use of each type of extinguisher? Do you use safety cans when dispensing flammable and combustible liquids? Do you have a plan to clean up spills properly and promptly? Plastic milk cartons and glass bottles are not approved containers for these liquids. Are all flammable or combustible liquids you use in approved, closed containers when not in use?

OSHA requirements state that "no more than 25 gallons of flammable or combustible liquids shall be stored in a room outside of an approved storage cabinet." Further, "no more than 60 gallons of flammable or 120 gallons of combustible liquids shall be stored in any one storage cabinet. Not more than three such cabinets may be located in a single storage area." Does storage of these liquids on your jobsite measure up?

In closing, flammable and combustible liquids can be used safely. If you follow the guidelines above no problems should arise -- if you don't, you may go up in smoke!

**ONLY FOOLS SMOKE AROUND FLAMMABLES OR COMBUSTIBLES. PRIOR TO LIGHTING UP,
CHECK YOUR AREA CAREFULLY.**

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FLOOR & WALL OPENINGS

These safety requirements pertain to construction activities and are not to be used as design criteria for permanent structures. They cover construction work area conditions where there is the danger of employees or materials falling through floor, roof or wall openings.

Floor openings into which persons can accidentally walk shall be guarded by either a standard railing with standard toe board on all exposed sides, or a floor hole cover of standard strength and construction. The cover must also be secured to guard against accidental displacement. While the cover is not in place, the hole must be protected by a standard railing.

Wall openings from which there is a drop of more than 4 feet shall be guarded by a standard rail. In addition to the above, every open-sided floor or platform 6 feet or more above the adjacent floor or ground level shall be guarded by a standard railing or equivalent on all open sides, except where there is an entrance to a ramp, stairway or fixed ladder.

The definition of a standard railing is a railing consisting of a top rail, intermediate rail, toe board and posts, with a vertical height of approximately 42 inches from the upper surface of the top rail to the floor, platform, runway, or ramp level. The top rail should be smooth surfaced throughout the length of the railing. The intermediate rail shall be halfway between top rail and the floor, platform, runway or ramp. The ends of the rails shall not overhang terminal posts except where such overhang does not constitute a projection hazard. Wood railings, pipe railings, and structural steel railings are all acceptable, but please note that you may not use re-bar for railings because of its brittleness and unpredictable strength. One additional method is the use of 1/2" wire rope, provided it is installed properly with a minimum of deflection. Standard guardrails must be capable of withstanding a 200 pound load in any direction.

All railings and covers must be checked routinely and repaired as needed.

NEVER LEAN ON A RAILING - IF IT FAILS YOU COULD FALL AND BE SERIOUSLY INJURED

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FLOOR OPENINGS

Floor openings come in many different sizes and locations. OSHA defines a floor opening as, "An opening measuring 12 inches or more in its least dimension in any floor, roof, or platform through which persons may fall." What type of hazards are associated with floor opening? The biggest danger is a fall from an elevation. Such a fall could cause injuries as minor as a sprain or strain to as serious as broken bones or even result in death! Another hazard is being struck by objects falling through the floor hole.

Several methods of protection for floor openings are acceptable. A standard guardrail with a toe board provides a good physical barrier. If you use wood, both posts and top rail must be of at least 2"x4" stock and the mid rail of 1"x6" stock. If you choose pipe railings, posts, top and intermediate railings must be of at 1 ½" nominal diameter pipe. For structural steel railings, posts, top and mid rails shall be of 2"x 2" x 3/8" angle or equivalent. In all cases posts must be spaced not to exceed 8' on center, and toe boards shall be a minimum of 4" in vertical height and securely fastened. All standard guard rails must be able to withstand 200 pounds of force with a minimum of deflection in any direction.

Smaller openings may be protected with a floor hole cover, capable of supporting the maximum intended load and must be installed so as to prevent accidental displacement. Covers and their supports located in roadways and vehicle aisle ways for conduits, trenches and manholes must be signed to carry the rear axle load of two times the maximum intended load.

Many deaths occur each year because floor hole covers are removed and not replaced, or they were constructed of materials that could not support the weight of the person or load. Toe boards prevent materials from falling through the opening and striking a worker below. For new construction, identify floor holes as they are created; for existing structures survey the site prior to starting work and continue to check all areas as renovation, repair and alteration proceeds. Install guardrail or hole covers immediately, as needed.

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General Forklift Safety

Forklifts are excellent labor saving devices. They save time and reduce the likelihood of injury associated with manual material handling activities. However, forklifts can become very dangerous if operated by a reckless or untrained operator. All operators should receive safety training prior to being allowed to operate a forklift.

Forklift accidents tend to be very serious, involving both personal injury and damage to property. These accidents can be avoided if operators use some common sense and follow safe operating procedures. Do not operate a forklift until you have been properly trained and authorized to do so.

Basic Forklift Safety Practices

Here are a few common safety rules to follow during forklift operation:

1. Use the seat belt. It will keep you secured in the seat in the unplanned event of a tip over.
2. A parked forklift should have the forks flat on the floor with the controls set to neutral and with the parking brake set.
3. A forklift is considered to be "unattended" if the operator is more than 25 feet away or if the forklift is out of the direct vision of the operator. Unattended forklifts should be parked with the power turned off.
4. When operating the forklift on inclines, the load should always be on the uphill side of the incline. Drive forward going up the incline. Drive backward going down the incline.
5. When traveling without a load on the forks, keep the forks approximately four to six inches off the floor.
6. Never allow anyone to walk underneath a raised load.
7. Stop at all blind corners to check for other traffic in the area. This includes other forklifts and pedestrians. Honk your horn and look before you proceed.
8. If carrying a tall load that blocks your forward vision, drive in reverse and turn your head so you can see where you are going.
9. If operating around other forklifts maintain a three-forklift length distance between forklifts and never attempt passing.
10. Never drive a forklift up to the back of a person who is unaware that the forklift is behind them.

FORKLIFT SAFETY IS FOR EVERYONE'S BENEFIT

How to Use a Fire Extinguisher

Some things are important enough to need repeating. Earlier this month you were given the proper instructions on how to use a portable fire extinguisher. Be sure to remember the PASS operating technique for portable fire extinguishers. PASS stands for:

- P - Pull the pin. Pulling the pin unlocks the operating lever or button so you can discharge the extinguisher. Stand at least 6 to 8 feet from the fire.
- A - Aim low, pointing the extinguisher nozzle or hose at the base of the fire.
- S - Squeeze the lever below the handle. Squeezing the lever discharges the contents of the extinguisher. When you release the lever, the discharge stops. Some models have a button to press rather than a lever.
- S - Moving carefully toward the fire, keep the extinguisher aimed at the base of the fire and sweep from side to side until the flames appear to be out.

Watch the area. If the fire starts up again, repeat the PASS technique.

Foreign Object Debris and Damage Prevention

Foreign object debris (FOD) at airports can cause damage that costs airlines, airports, and airport tenants millions of dollars every year. FOD is any object that does not belong in or near airplanes and, as a result, can injure airport or airline personnel and damage airplanes. A FOD-prevention program of training, facility inspection, maintenance, and coordination between all affected parties can minimize FOD and its effects.

Foreign object debris (FOD) at airports includes any object found in an inappropriate location that -- as a result of being in that location -- can damage equipment or injure airplane or airport personnel. The resulting damage is estimated to cost the aerospace industry \$4 billion a year. Airports, airlines, and airport tenants can reduce this cost by taking steps to prevent airport FOD. FOD includes a wide range of material, including loose hardware, pavement fragments, catering supplies, building materials, rocks, sand, pieces of luggage, and even wildlife. FOD is found at terminal gates, cargo aprons, taxiways, runways, and run-up pads. It causes damage through direct contact with airplanes, such as by cutting airplane tires or being ingested into engines, or as a result of being thrown by jet blast and damaging airplanes or injuring people.

A program to control airport FOD is most effective when it addresses four main areas:

- 1 Training.
- 2 Inspection by airline, airport, and airplane handling agency personnel.
- 3 Maintenance.
- 4 Coordination.

1 TRAINING

All airport and airline personnel and airport tenants should receive training in the identification and elimination of FOD, including the potential consequences of ignoring it. This training can supplement the general FOD awareness incorporated into the airside driver-training curriculum at many airports. FOD training for flight crews includes following the recommended procedures identified in the Flight Crew Operating Manual and pre- and postflight inspection procedures covered during line training.

Effective training should stress safety to personnel and passengers, the hazards to equipment, the direct costs associated with FOD damage, and the indirect costs associated with flight delays and rescheduling. It should also include procedures for removing and eliminating FOD at its source, and should be reinforced through the use of posters and signs. Recurrent training is necessary to help maintain an awareness of FOD.

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2 INSPECTION

Airline personnel, when feasible, should join the airport staff in daily airside inspections. This practice helps increase familiarity with local airfield conditions, and promotes effective communication between the airport and airlines.

The U.S. Federal Aviation Administration (FAA) and International Civil Aviation Organization (ICAO) require a daily, daylight inspection of airplane maneuvering areas and removal of FOD. In addition to performing these inspections at the beginning of the day or shift, personnel on the airside should look for FOD during their normal shifts.

Ongoing construction requires more frequent inspections. It may even be necessary to assign dedicated personnel to continually inspect for FOD during major construction activities. Flight crews should report to air traffic control and station operations any FOD they observe on runways and taxiways. Airlines and airplane handling agents should designate individuals to inspect gate areas prior to airplane movement to and from the gate.

3 MAINTENANCE

Maintaining control of FOD includes using several methods:

- Sweeping.
- Magnetic bars.
- Rumble strips.
- FOD containers.

Sweeping. Sweeping may be done manually or with the airfield sweeper, which is the most effective equipment for removing FOD from airside areas. The sweeper removes debris from cracks and pavement joints, and should be used in all areas except for those that can be reached only with a hand broom. All airside areas, including aircraft maneuvering areas, aprons and gates and the areas adjacent to them, should be swept routinely. The areas in which ground support equipment (GSE) is staged should be swept periodically.

Magnetic bars. These bars can be suspended beneath tugs and trucks to pick up metallic material. However, the bars should be cleaned regularly to prevent them from dropping the collected debris. Vehicles operating on the airside should be inspected periodically to ensure that they have no loose items that can fall off.

Rumble strips. Driving over rumble strips dislodges FOD from vehicle undercarriages. The strips, which are 10 to 15 ft long, can be moved and used at transitions from the landside to the airside, or adjacent to airside construction areas.

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FOD containers. These containers should be placed at all gates for the collection of debris. The containers should be emptied frequently to prevent them from overflowing and becoming a source of FOD themselves. In addition, airport personnel can wear waist pouches to collect debris. Evaluating the debris collected in containers and pouches can reveal its sources and indicate where personnel and equipment should be deployed for more effective control.

Other means for preventing FOD damage include wind barriers and netting to restrict the movement of airborne FOD, fencing to prevent animals from entering the airfield, and well-maintained paved surfaces. If damaged pavement cannot be repaired immediately, airplanes should take an alternate route.

COORDINATION

Airports with a FOD committee of airport tenant representatives tend to control FOD more successfully than those without such a committee because the representatives can address local conditions and specific problems. At airports served by multiple airlines, the airlines should have these representatives as well as an airport user's committee to coordinate FOD control efforts among themselves.

Both airside and landside construction activities, as well as scheduled maintenance, should be communicated to airport users as early as possible. Airport preconstruction planning should include a means for controlling and containing FOD generated by the construction. This is especially true in high-wind environments where debris is more likely to become airborne. Access to and from construction sites should avoid areas of aircraft operation. Contractors must fully understand the requirements and penalties incorporated in their contracts regarding the control and removal of FOD.

FAA Advisory Circulars 150/5380-5B, Debris Hazards at Civil Airports, and 150/5370-2C, Operational Safety on Airports During Construction, provide excellent guidelines for coordinating day-to-day FOD prevention during construction.

SUMMARY

An effective debris-control program can greatly reduce the high cost of FOD damage and the potential for injury to personnel. The program is founded on initial and recurring training, and it is carried out through the inspection and maintenance of airport facilities. FOD control is most effective when all affected parties coordinate their efforts.

BOEING FOD AUDITS

Boeing is available to perform an operational FOD audit upon request. The audit provides

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an independent review of existing conditions, and results in recommendations for enhanced debris control. It includes a review of maintenance and servicing procedures, installation of recommended service bulletins, a review of flight crew operating procedures, and an inspection of the airport operating environment, including FOD-avoidance procedures used by ramp and airport personnel. Operators may use audit findings to develop corrective procedures and training programs, and to improve coordination between operators, airport personnel, and airport tenants.

FOD AND MAINTENANCE COSTS

The effect of Foreign Object Debris (FOD) on maintenance costs can be significant. For example, the cost to repair a FOD-damaged engine can easily exceed \$1 million. FOD can also incur extensive indirect costs, including:

- Flight delays and cancellations, leading to a loss of customers.
- Schedule disruptions caused by the need to reposition airplanes and crews.
- Potential liability because of injury.
- Additional work for airline management and staff.

The cost of repairing FOD damage to an engine can easily exceed 20 percent of its original purchase price.

Purchase cost of MD-11 engine	\$8-10 million
Purchase cost of MD-80 engine	\$3-4 million
MD-11 engine overhaul to correct FOD damage	\$500,000-1.6 million
MD-80 engine overhaul to correct FOD damage	\$250,000-1.0 million
MD-11 fan blades (per set*)	\$25,000
MD-80 fan blades (per set*)	\$7,000

*Fan blades are balanced and replaced as a set.

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RESPONSIBILITY FOR PREVENTING FOD

The two main parties with a role in preventing foreign object debris (FOD) and the potential resulting damage are airports and airlines.

Airports. Regulatory agencies define the responsibility of airports serving scheduled airlines. Regulations defined by the U.S. Federal Aviation Administration for U.S. airlines differ from those defined by the International Civil Aviation Organization (ICAO) for other countries.

FAA Part 139.305(a)(4) states, "except as provided in paragraph (b) of this section, mud, dirt, sand, loose aggregate, debris, foreign objects, rubber deposits and other contaminants shall be removed promptly and as completely as practicable." FAA Advisory Circular 150/5200-30A, Airport Winter Safety and Operations, specifies cleanup requirements for sand applied during winter operations.

ICAO Annex 14 Recommendation, Pavements-paragraph 9.4.2 states, "The surface of pavements (runways, taxiways, aprons, etc.) should be kept clear of any loose stones or other objects that might cause damage to airplane structures or engines, or impair the operation of airplane systems." The regulatory agencies of many countries have adopted this statement by ICAO as a requirement.

Airlines. Airlines and airport tenants generate much of the FOD found in gate areas, service roads, baggage makeup areas, and areas near flight kitchens. Agreements between airlines and their support organizations should specify which of the parties are responsible for cleaning various areas.

SOURCES OF FOD

Foreign object debris (FOD) comes from many sources. The most common are:

- Airport infrastructure.
- Normal airplane operations.
- Personal belongings.

Airport infrastructure. The deterioration, maintenance, and construction of the airport infrastructure can contribute to FOD. For example, pieces of concrete can break loose from holes in pavement or from fatigue corner cracks, and building materials can fall from construction vehicles or be blown from gate areas onto airplane maneuvering areas.

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Broken pieces of pavement can collect at the edge of the gate area and be carried onto the airplane maneuvering area by the tires of vehicular ground support equipment (GSE). Service roads that cross taxiways should be monitored closely to prevent the vehicles using these roads from moving FOD onto the taxiways.

Normal aircraft operations. Refueling, catering, cabin cleaning, and baggage and cargo handling can produce broken materials. Baggage pieces, including bag tags and wheels, can break off luggage and either fall onto the apron or collect in the door sill. Items collected in the door sill can damage the door or prevent it from fully sealing. They can also be knocked out of the sills and onto the apron at the next station. Other areas where FOD is likely to collect include the ground at both ends of the conveyor, and the area between the baggage cart and the conveyor belt.

Maintenance activities at the gate require a variety of small objects, such as rivets, safety wire, and bolts, that become FOD when they are inadvertently left behind. An effective tool control program will reduce the number of missing hand tools.

FOD typically peaks during the early spring, when airports often begin construction activities, and during the winter because of operations in snow and ice. Issued by the U.S. Federal Aviation Administration, Advisory Circular 150/5200-30A, Airport Winter Safety and Operations, contains specific guidance on using and removing sand to minimize its chances of becoming FOD in winter weather conditions.

Aft galley catering operations through the aft main deck door can be a potential FOD hazard to a rear-mounted No. 1 engine not protected by an inlet cover. Without the cover, catering supplies can be set down in the engine intake, where they can be inadvertently left behind. These supplies can also fall or spill their contents into an unprotected engine.

FOD can collect both on and below ground support equipment stored or staged adjacent to the gate area. Jet blast can then blow FOD onto personnel or an airplane. It can also create runway FOD when an airplane transitions from a 150-ft-wide runway onto a 75-ft-wide taxiway (figure 3). Outboard engines blow any loose dirt and materials from the shoulder and infield areas back onto the runway. Also, the outboard engines of four-engine airplanes can move debris from the runway edge and shoulder areas, where it tends to accumulate, back toward the center of the runway or taxiway.

Helicopters that maneuver over freshly mowed or loose-dirt infield areas can also move FOD onto runways, taxiways, and ramps. In addition, the rotor wash from a helicopter can propel lightweight GSE or materials staged nearby.

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Personal belongings. Pens, coins, identification badges, hats, soda cans, paperwork, and any other object that airport or airline personnel carry can become FOD if inadvertently left in an inappropriate location.

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FORKLIFT SAFETY

Much of the equipment in use on construction projects can create dangerous conditions for construction workers. You know that a few of these conditions are present at all times -- any piece of moving equipment should be respected. When working around a forklift keep a sharp lookout -- DON'T DEPEND on the lift operator being able to see you, and DON'T DEPEND on hearing a horn or back-up alarm as surrounding noise may prevent this. When a forklift is traveling backwards, the operator usually cannot see you, SO STAND CLEAR!

As an operator of one of these mobile lifting machines be sure you are familiar with the manufacturer's operating instructions. Prior to starting the equipment give it a quick once over. Check the engine oil level, radiator water level and the fuel level. Look at the tires, check both the parking and service brakes. Check the hydraulic lines for leaks and test the horn. When traveling from point to point never speed. A 'jack rabbit' start or stop may cause an accident. When carrying a load always face the destination of travel and keep a sharp look out for low overhead obstructions. Never allow co-workers to ride on the forks. Never attempt to pick up more than the rated capacity of the machine. Wear the seat belt if one is provided. When picking up a load try to place the forks so the load is square, and make sure the material that you are carrying is -secure and won't fall off during travel. Unless the forklift is designed for off-road use, never take it off the road.

Only trained operators should operate the lift. An untrained operator is a danger to all those working in the area.

As with any other piece of equipment, never smoke during refueling. Avoid working around low electrical lines. Should you ever have a question about a forklift, ask your supervisor. A forklift is a piece of equipment especially designed to help you with your work -- don't let it be a source of an injury -- treat it with respect.

ALWAYS SHUT OFF ALL POWER CONTROLS WHEN LUBRICATING OR PERFORMING ANY MAINTENANCE.

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FORKLIFTS

Forklifts assist us with various tasks around a construction site. Most of us take them for granted without giving a great deal of thought to safety, whether we're operating them or working near them.

A forklift is designed to pick up heavy objects and move them from one place to another, or raise heavy or bulky loads to high levels. Lumber, brick, block, shingles, bags of concrete and tubs of mortar are just a few examples of material that can be moved by forklift on a construction site. Various other types of business use them to perform innumerable lifting tasks.

A forklift should only be operated by a trained, competent person. Never let someone operate a forklift who is not qualified to drive.

Inspect your forklift prior to use. Check the mast for any broken or cracked weld-points. Be sure the forks are spaced apart equally and free from cracks. Check the tires for proper inflation and the fuel and hydraulic fluid levels.

Some forklifts are battery powered; others use gasoline or diesel, and some use propane. If your forklift is battery powered be sure you **DO NOT SMOKE** in the charging area. If the lift is propane powered be sure you change the fuel cylinder outside, away from any buildings, and remember **NO SMOKING** is the rule. As always, **NO SMOKING** when refueling with gasoline or diesel.

After completing your inspection get in the cab and buckle up the seat belt. With your foot on the brake, put the gear shift lever in the neutral position and turn the key. Be sure to check all gauges, controls and brakes before moving, and then watch out for all workers in your area of operation. Prior to making any lift be sure you know the capacity of the forklift. This information is located on the manufacturer's ID plate. You must also know the weight of what you are going to lift. If in doubt, or if you have any questions, check with your supervisor.

IF THE LOAD BLOCKS YOUR VISION IN THE FRONT, DRIVE IN REVERSE OR USE A SIGNAL PERSON. DON'T TAKE CHANCES!

Life Changing Injury

Life changing injuries are those injuries that will change our life and impact our co-workers, families and friends. These injuries would be things such as broken bones, amputations, loss of vision, partial or full immobility of a limb. Injuries that will truly change your life and the lives of those of loved ones.

Some of you have had life changing injuries or may know someone who has had a life changing injury. You know the pain, suffering and trauma that they cause. They disrupt just about every aspect of your life.

Everyone I want you to tuck your thumb into the palm of your hand (Give them a minute). Now either put on or take off your safety glasses.

Sure it can be done, but it sure isn't as easy as when you have a thumb to use. That is the way life changing injuries affect us.

Today as you are out in the facility, think about life changing injuries. Try typing on the keyboard with only your pinkie finger or writing with your less dominant hand or close your eyes when you're eating lunch and imagine that was the way the world looked each and every moment of your life.

That is what life changing injuries are about.

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Lifting it Twice

Most of you have heard the general rules of safe lifting. Remember to “Get a firm grip on the load, keep it close, bend at the knees, use your legs to lift the load, and keep your spine in the natural position (with an arch in your lower back).” These principles always apply and should be incorporated into every lift--if possible!

Given the enormous number of “risky” lifting situations that you are faced with at your place of work, you may not be able to apply these principles every time. This is why you must always remember to LIFT IT TWICE! What?!

The act of lifting is the same as any other movement that you can learn to do better with practice. As you know, the more you practice a skill the better you become at doing it. But preparing to master a skill normally involves mental as well as physical training. Consider bowling, golf, skiing or sharp-shooting. You think carefully about the movements you’re going to make before you do them. This is the only way to get them right--at least until they become second nature. Similarly, lifting TWICE means applying the principal of planning your movements prior to performing the lift:

1. Your first lift is a mental lift. Think about the lift prior to actually doing it:
2. How am I going to lift the item? Can I do it myself or should I get some help?
3. How heavy is the item? Do I need to use mechanical assistance?
4. Where am I taking the item being lifted? Is the area clear where I need to set it down?
5. Is it a difficult path or a distance to go?
6. What hazards may hamper the lift or obstruct the travel path?
7. Eliminate those hazards before you lift the item. In other words, Plan the Lift First!
8. The second lift is the actual physical lift. Here is where you carry out your plan.
9. Use proper body mechanics and techniques while going through the motions. Bend those knees!
10. Most important: Keep the load as close to your body as possible and don’t twist.

Next time someone tells you to lift twice remember...

TWO LIFTS ARE BETTER THAN ONE ...

WHEN IT COMES TO REDUCING THE RISK OF A STRAIN ON YOUR BACK!

Setting An Example

Setting a good example is not a "put-on". It's simply working safety into your daily routine at home and on the job. When we all work safely, everyone's job is safe and their future more secure.

New employees certainly benefit by seeing operations conducted the safe way. As you all know from experience, people new on the job take a while to adjust and to discover who they are in the overall set-up of the plant. New employees who have never held a job before or were employed by a firm that had a weak safety program probably will need considerable safety instruction. We'll attempt to give it to them, but naturally, they also observe and seek advice and information from fellow workers. These early impressions of you and of safety operations will be at least partially formed through these contacts and observations.

On the other hand, newcomers formerly employed by a firm that emphasized safety will probably think more of you personally if you measure up to the caliber of people they are accustomed to working with.

"Don't do as I do; do as I say" is a pretty tired expression, and it got tired because we all have repeated it many times— not just verbally but through our actions; and actions speak louder than words. When we leave our safety glasses resting on our foreheads rather than in place over our eyes, or when we kick an empty milk carton under a bench rather than pick it up, we're selling safety but it's a useless soft sell. Our actions are saying, "I believe in wearing eye protection but not in protecting my eyes; and I know trash can cause a tripping accident, but it isn't important enough to make me pick it up."

There's another angle to setting good examples. Too often people dress to impress others with their good taste rather than their knowledge of safety. Wearing rings, bracelets, and other ornaments is dangerous around machinery and in many other jobs where it's possible for jewelry to be caught by moving parts of machinery, thus cause injury to the wearer. Long sleeves, floppy pant legs, and long hair can be hazardous on some jobs, too.

So we should always dress for the job. Our image as a fashion expert may suffer, but it will give way to the more important and more beneficial image of safety.

Maybe some of us feel we are already setting good examples for safety, but maybe this self-image isn't too accurate. Think just for a moment— isn't it strange that we always think about having the nice things happen to us and when we think about an accident, it's usually happening to someone else?

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Accidents are a reality. Make your personal safety just as real and you'll have a good chance of not becoming the other person to whom accidents are always happening.

We also might remember that our children some day will be entering the work force. And they, like the newcomer on the job, can benefit by our actions that exemplify safety consciousness.

Most of us try to demonstrate to our kids how to cross streets or how to light matches when they're of age. If, through the years, your kids learn from you how to use a ladder correctly, or that it's good practice to keep tools in their proper places or that there's a right way to lift things, you've given them an additional opportunity for the better life the future promises.

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Slips, Trips and Falls

Slips, trips and falls is the number 1 reason for an industrial injury in the United States. More workers are hurt due to slips, trip or falls than any other reason. Over the years we've had several incidents from tripping on strapping to slipping on oil. This week we'll look specifically at Slips, Trips and Falls.

Thousands of disabling injuries—and even deaths—occur each year as a result of slips, trips, and falls:

- From heights, on stairs, and on level ground
- At work and at home

Maintain Work Areas to Prevent Slips, Trips, and Falls

This is probably the most important thing you can do to prevent this type of accident. Housekeeping is the key to preventing slips, trips and falls.

- Keep walkways, aisles, and stairs free of tools, materials, and other hazards.
- Clean up any leaks or spills on floors, stairs, entranceways, and loading docks promptly.
- Repair or report floor problems, such as broken planks, missing tiles, etc.
- Block off and mark floor areas that are being cleaned or repaired.
- Keep cords, power cables, and air hoses out of walkways.
- Place trash promptly in proper containers.
- Keep drawers closed. Take Precautions on Stairs and Dock Edges
- Report missing or broken stair rails and slippery or damaged treads.
- Walk, don't run, on stairs. Hold onto stair rails while going up and down.
- Don't jump on or off platforms and loading docks, and stay away from edges.
- Don't carry a load you can't see over, especially on stairs or around dock edges

The Third Prong

A missing third prong from an electrical plug resulted in the electrocution death of a worker. He was climbing a ladder to hand a power drill to another worker when he received a fatal shock.

Investigators found the extension cord was missing its grounding prong. The grounding wire and the frame of the drill were being electrified off and on by the energizing wire. The drill was not double insulated.

You probably have been told many times about the dangers of using defective electrical equipment. If you have used such equipment and got away with it, count yourself lucky. Your story could have turned out tragically, as it did for this worker.

Remember to inspect a power tool before you use it. If you find signs of damage or wear, discard it or turn it in for repair by a qualified person.

Don't attempt electrical repairs unless you are trained and qualified. And never make alterations such as removing the third prong so you can plug it into a two-prong outlet or extension cord.

What is a Confined Space?

A confined space does not necessarily mean a small, enclosed space. It could be rather large, such as a ship's hold, a fuel tank or a pit.

One of the first defining features of a confined space is it's large enough to allow an employee to enter and perform work. The second defining feature is it has limited means of entry or exit. Entry may be obtained through small or large openings and usually there is only one way in and out. The third defining feature is that confined spaces are not used for continuous or routine work.

Permit or not

All confined spaces are categorized into two main groups: non-permit and permit-required. Permit-required confined spaces must have signs posted outside stating that entry requires a permit. In general, these spaces contain serious health and safety threats including:

- Oxygen-deficient atmospheres
- Flammable atmospheres
- Toxic atmospheres
- Mechanical or physical hazards
- Loose materials that can engulf or smother

Although the danger in a confined space is obvious, the type of danger often is not. For example, a confined space with sufficient oxygen might become an oxygen-deficient space once a worker begins welding or performing other tasks.

These are some of the reasons confined spaces are hazardous:

- Lack of adequate ventilation can cause the atmosphere to become life threatening because of harmful gases.
- The oxygen content of the air can drop below the level required for human life.
- Sometimes a confined space is deliberately filled with nitrogen as a fire prevention technique. Nitrogen cannot sustain human life, so you must use respiratory protection.
- Many gases are explosive and can be set off by a spark.
- Even dust is an explosion hazard in a confined space. Finely-ground materials such as grain, fibers and plastics can explode upon ignition.
- Confined spaces often have physical hazards, such as moving equipment and machinery.
- Tanks and other enclosed confined spaces can be filled with materials unless the flow process for filling it is controlled.

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Before entering any confined space you must test the atmosphere to determine if any harmful gases are present. There must also be radio contact with an attendant outside the confined space and a rescue team at the ready in case of an emergency.

When Power Lines Go Down

Power lines may come down as a result of windstorms, ice buildup, and motor vehicle accidents. You cannot tell if a downed power line is energized just by looking at it. There are no sparks or movement. Even if the line is not live one moment, automatic switching equipment may restore power to the line without warning. The protective covering on a power line is not insulation; it only protects the line from the weather. It won't protect you from electrical contact.

The electricity in a power line always seeks a path to the ground. This path might include a tree, a vehicle, or a fence. These objects then become energized. If you touch the energized line or object, the electricity can flow through your body. Keep away from any object that is in contact with a power line.

Once electricity reaches the ground, the ground itself becomes energized. This can happen if a broken power line falls to the ground or onto a vehicle or tree. The electricity then flows through the ground over a wide area, spreading out like ripples in a pool of water. The voltage in the ground is very high at the point of electrical contact. Farther away, the voltage drops off. With power lines of up to 60 kilovolts, the voltage drops to zero at about 33 feet. However, if the ground is wet, it will be more than that.

1. Treat downed power lines and anything in contact with them as energized. Stay far away from any downed line.
2. Call the power company immediately. A crew with proper training and equipment will arrive as soon as possible.
3. Wait for the power company representative to confirm that it is safe to approach the scene. Only the power company can confirm that the system has been de-energized and that power will not automatically be restored.