Toolbox Safety Topic

Lightning Safety

- If you spend even a small part of your day working outdoors, you might want to consider this: a lightning strike can pack up to 40,000 amps and 100 million volts of electrical energy! That much energy can generate temperatures as high as 50,000 degrees Celsius (90,032 degrees Fahrenheit). It can ignite fires, rip through roofs and explode concrete brick walls.
- II. Lightning kills approximately 100 people every year in the United States. It injures hundreds of others, and causes billions of dollars in properly damage. According to the National Lightning Safety Institute, lightning is the #2 storm killer in the U.S. Only floods kill more people. Only about 10% of those struck are killed; 90% survive (often with lifelong sever injury and disability).
- III. What is the best means of protection against lightning? Despite the violent power of lightning, information may be the best protection from it. Many people are unaware that the most damaging lightning strikes occur when people least expect them before the main body of a storm. The leading edge of a storm is the most dangerous, even though it may only appear as thin, wispy clouds. Victims of lightning strikes often never even notice a cloud above them.

No place is absolutely safe from the threat of lightning, however, some places are safer than others.

- ✓ Large enclosed structures (substantial and permanent) tend to be much safer than smaller or open structures.
- ✓ Structures with lightning protection are much safer than those without.
- ✓ Fully enclosed metal vehicles, such as cars, trucks, buses, vans, fully enclosed farm vehicles, etc. with the windows rolled up provide good shelter from lightning. Avoid contact with metal or conducting surfaces outside or inside the vehicle.
- ✓ If hopelessly isolated from shelter during close-in lightning, position yourself in a **low** crouch with feet together and hands on ears.

Here are some specific lightning safety tips from the National Lightning Safety Institute:

- AVOID being in or near:
 - o high places
 - o open fields
 - isolated trees
 - unprotected gazebos
 - rain or picnic shelters
 - baseball dugouts
 - o communications towers
 - flagpoles
 - bleachers (metal or wood)
 - metal fences
 - convertibles
 - golf carts
 - o water
- □ When inside a building, AVOID:
 - using the telephone
 - taking a shower
 - washing your hands
 - doing dishes
 - any contact with conductive surfaces with exposure to the outside, such as a metal door or window frames, electrical wiring, telephone wiring, cable TV wiring, plumbing, etc.

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- IV. Generally, speaking, if you can see lightning and/or hear thunder, you are already at risk. Louder, or more frequent thunder, indicates that lightning activity is approaching, increasing the risk for lightning injury or death. If the time delay between seeing the flash of lightning and hearing the bang of thunder is less than 30 seconds, you should be in, or seek a safer location immediately. Although many lightning casualties occur in the beginning of a storm, they may also occur for up to 30 minutes after the last sound of thunder when people assume the threat is over. When thunderstorms are in the area, but not overhead, the threat exists even if it's sunny, not raining, or clear sky is visible.
- V. Did you know that most lightning victims can actually survive their encounter with lightning, especially if they receive prompt medical treatment? Individuals struck by lightning do not carry a charge and it is safe to touch them to give medical treatment (electrocutions are another story). Follow these steps to try to save the life of a lightning victim:
 - ✓ Call 911 to get help on the way
 - ✓ Make no more casualties! If the area where the victim is located is high risk, do not place yourself in unnecessary danger. Choose whether evacuation from the high risk area in an active thunderstorm to an area of lesser risk is warranted. Do not be afraid to move the victim rapidly if necessary – broken bones that would cause paralysis or major bleeding are not usually associated with lightning strikes unless the victim fell or was thrown a distance.
 - ✓ If you have been trained in Cardiopulmonary Resuscitation (CPR), start mouth-to-mouth resuscitation if the victim is not breathing. (Give a few quick breaths prior to moving them, if necessary.)
 - ✓ Check for a pulse and begin cardiac compressions if no pulse is detected.
 - ✓ If the area is cold and wet, put a protective layer between the victim and the ground to help decrease hypothermia.
- VI. There are a few things you can do to prepare and avoid lightning incidents.
 - Have a weather radio or other notification system in place.
 - Designate a responsible person to monitor weather conditions and notify others.
 - ☐ Have an Emergency Action Plan in place.
 - Suspend activities, evacuate people, monitor conditions, resume activities.
 - o Identify safe locations beforehand.
 - ☐ Train employees on emergency action procedures beforehand.

References: "Saf-T News May 10, 2002"

www.lightningsafety.com www.wvlightning.com www.fema.gov

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Date:	
Meeting Conducted By:	Title:

Attendees

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