Avoiding Struck-By Incidents

What’s at Stake?

Struck-by incidents contributed to almost 1,000 construction worker fatalities in the last 5 years according to a new report from the Center for Construction Research and Training. The report states 52% of the fatalities involved workers struck by an object or equipment; the remaining deaths involved workers struck by vehicles. Other findings in the report show:

- 57% of the struck-by vehicle fatalities occurred in work zones.
- 114 deaths were the result of being struck by a passenger vehicle, and 112 workers died after being struck by a truck.
- Highway, street and bridge workers accounted for approximately 1/3rd of those fatalities.
- Highway maintenance workers, power line installers, and excavating or loading machine operators experienced the most struck-by fatalities.

What’s the Danger?

Struck-by injuries are produced by a forceful hit between the injured person and an object or piece of equipment. Causes of struck-by events can be broken down to four main categories:

Rolling Objects: Hazards for rolling objects happen when an object is rolling, moving, or sliding on the same level as the worker.

- The most common rolling hazard incidents are when a worker is struck or run over by a moving vehicle
- Rolling object hazards also include when the worker is struck by a sliding object or equipment on the same level

Falling Objects: Falling object hazards exist when the source of injury is from being struck by an object falling from an elevation to a lower level.

- The injured person is crushed, pinned, or caught under a falling object or equipment (a single brick falling and striking a worker).
- This does not include instances when workers are caught under collapsing material or structures (a wall of bricks falling on a worker).

Flying Objects: Flying object hazard exists when something has been thrown, hurled, or is being propelled.

- It can include injuries or fatalities from a piece of material separating from a tool/ machine, striking a worker
- Using compressed air to power tools or to clean surfaces can also cause flying object hazards.
- Last, hazards exist if an object is ejected from pneumatic or powder-actuated tools. Powderactuated tools are more hazardous due to the force behind the fasteners, which are designed to go through wood, concrete and steel… they could definitely go through a worker!

Swinging Objects: When materials are mechanically lifted, they have the potential to strike workers.

- Windy conditions are especially hazardous because the load will swing more.
- Depending on where the worker is and the force behind the load, the worker may fall to another level and sustain even greater injuries.
- In addition to swinging, loads can slip from their riggings and strike workers.

How to Protect Yourself

When operating heavy equipment:

- Stay away from heavy equipment when it’s operating; be aware of the swing radius of cranes and backhoes. Be alert to the location of all heavy equipment whether in use or not.
- Stay clear of lifted loads and never work under a suspended load; beware of unbalanced loads.

- Workers should confirm and receive acknowledgement from the heavy equipment operator that they are visible; operators should make sure all workers are in the clear before using dumping or lifting devices.
- Haulage vehicles loaded by cranes, power shovels, etc., must have a cab shield or canopy that protects the driver from falling materials.
- Never exceed a vehicle’s rated load or lift capacity.

When operating motor vehicles:

- Wear seat belts when provided.
- Before each shift, check that all parts and accessories are in safe operating condition.
- Only drive a vehicle in reverse gear with an obstructed rear view when there is an audible reverse alarm, or another worker signals that it is safe.
- When parking, set the parking brake and chock the wheels if they are on an incline.
- Use traffic signs, barricades or flaggers when construction takes place near public roadways.
- Wear warning clothing; if working overnight, clothing must be reflective.

Operating general construction tools/equipment:

- When working with machines and power tools be sure to have appropriate PPE and training, and before operation inspect equipment to ensure all guards are in place and in working order.
- When performing overhead work, secure all tools and materials, use appropriate guards, barricade the area and post signs, and be sure materials are stored farther than 6-feet from hoist ways/floor openings, and more than 10-feet from an exterior wall.
- When pushing or pulling objects that may become airborne, stack and secure materials to prevent sliding, falling or collapse, keep work areas clear and secure material against wind gusts.

Final Word

Whether struck-by hazards are caused by falling, rolling, flying or swinging objects, being aware, prepared and cautious will help to avoid injuries.