

Consciously Reduce Your Occupational Injury Risk

We get comfortable around some pretty hazardous equipment and circumstances if you stop to think about it. Just in our everyday life, stop for a moment to marvel that we routinely drive a two-lane roadway at 55 mph (you know, the speed limit) as another vehicle careens toward us at a similar speed and the thought of a 110-mph head on collision rarely enters our mind.



In the public works arena, there are endless examples. On a daily basis we interact with dump trucks, backhoes, skid steers, and other equipment that can run over us, catch us between it and a stationary object, or smash us. We use chain saws, woodchippers, leaf vacuums, pipe saws, and other equipment that can chop us up or grind us down. We climb some dicey ladders or step out on some questionable platforms. We work on roadway slopes that can cause slips or falls.

Hopefully, we do so with the utmost awareness of risk and mitigate the danger to the practical extent we can, including the use of personal protective equipment (PPE) appropriate to the situation. Hard hats, safety glasses, ear protection, gloves, high visibility vests, steel toe footwear, chaps, and fall protection devices are the common examples that can reduce the likelihood of injury.

The Occupational Safety and Health Administration (OSHA) has far too many examples of what can happen when we become complacent in the face of risk. The stories are not comfortable. On such example involved an 18-year-old worker who, “died after becoming

entangled in a portable mortar mixer at a residential construction site. The victim was cleaning the mixer at the end of his shift to prepare it for the following day. A painter working near the victim heard yells for help and saw the victim’s arm stuck in the machine and his body being pulled into the rotating mixer paddles. He ran to the mixer and attempted to turn it off, but could not disengage the gears, so he yelled for help. A co-worker heard the



commotion, ran to the machine and shut it off.” EMS personnel responded quickly and rescue workers dismantled the drive mechanism to extricate the worker, but he perished at the scene (<https://www.osha.gov/youngworkers/stories.html>).

There is much we do not know about what led up to this tragedy, but we know it would

have been avoided had the machine been disconnected from whatever powered it during the cleaning process. “Lockout/tagout” procedures are essential when we are working on equipment that has powered, moving parts.

All agencies should take affirmative steps for safety in these circumstances, including:

- Train employees in the recognition and control of hazards
- Development and enforcement of standard operating procedures requiring that equipment is turned off and disconnected from its energy sources before cleaning or maintenance
- Establish lockout/tagout procedures to guard workers from the unexpected startup of machinery and equipment or the release of hazardous energy during service or maintenance activities
- Ensure machine and equipment guards remain in place
- Ensure that all warning labels on the equipment are clearly visible and equipment is properly maintained
- Assign safety responsibilities to a competent person at each job site with the authority to enforce safety requirements and take prompt measures to correct unsafe situations



The first of these is too often overlooked. If we don't consciously think for a moment about the risks involved in our activities, even a task we've undertaken dozens of times in the past can result in injury. Being situationally aware cannot be over-emphasized, which is why tailgate safety talks can be so impactful. If we take a few minutes before starting in to become consciously aware of the risks (however small, however remote), we can probably remove some of them, and mitigate others. For the rest, we are better situated because they are forefront in our minds.

Whether we realize it or not, we all need reminders to, “look both ways before crossing the street.” Is it any less obvious to say, “Hey, before you stick your hands down in those powerful paddles, did you check to see that the power was off?” And can you honestly say you have never been asked something along those lines and had to say, “oh...yeah”?

We need reminders. We need people watching our backs. Even if it is a little obvious. Even if it is a little



irritating. Better to get a dismissive look from a colleague after you ask about the extension cord laying in water than to deal with the injury that can result.

OSHA relates another one. “A 20-year-old carpenter was working for a construction company that was building an apartment building. While he was trying to install temporary supports for the roof trusses, he fell through the second story stairway opening and landed on the first-floor concrete walkway. He suffered a skull fracture with serious brain injuries. Falls are the most common cause of injury and death for construction workers.” Think about how many times a year your work takes you out on a ledge or a roof or standing on questionable rafters.

To prevent falls, agencies should provide fall protection in one of three ways for workers exposed to vertical drops of 6 feet or more:

- Place guardrails around the hazard area
- Deploy safety nets
- Provide personal fall protection systems for each worker. This includes an anchor, full body harness, and lifeline

Public works employees face many of the same workplace hazards as private sector construction works and perhaps even some that are unique. In addition to falls, there are hazardous materials to be contended with, confined space issues, electrocution, high noise issues, cuts, getting caught between equipment, animal and insect bites, air quality issues, and more. Proper PPE for the activity and surroundings can go a long way towards minimizing hazards.

A comprehensive look at your agency’s PPE policies and an audit of PPE condition every once in a while is a good practice. Our Center can help for free – for example, our Municipal Engineering Circuit Rider developed a ~1 hour presentation on PPE – Matt would be happy to visit your shop and walk you and your crew through various PPE and how you can decide which elements are needed for your activities.

The Delaware T²/LTAP Center’s Municipal Engineering Circuit Rider is intended to provide technical assistance and training to local agencies, so if you have technical assistance or training needs, contact Matt Carter at matheu@udel.edu or (302) 831-7236.

