

## **PRESENTER'S GUIDE**

# **"CAUGHT-IN/BETWEEN HAZARDS IN CONSTRUCTION ENVIRONMENTS"**

**Part of the Construction Safety Kit Series**

# **OUTLINE OF MAJOR PROGRAM POINTS**

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The following outline summarizes the major points of information presented in the program. The outline can be used to review the program before conducting a classroom session, as well as in preparing to lead a class discussion about the program.

- **A construction site is a busy place.**
  - Framing, trenching and demolition may be going on.
  - A variety of tools and machinery are being used.
  - Heavy equipment is operating, and other vehicles are on the move.
  - Materials are being delivered and stored.
  
- **In the midst of all this, accidents can happen and people can get hurt, even killed.**
  - That's why one out of every five workplace fatalities in the U.S. is a construction worker.
  - A significant number of these deaths result from one type of situation.
  
- **OSHA calls these "caught-in/between" accidents.**
  - Caught-in/between hazards are one of the four top causes of fatalities in construction work.
  - Caught-in/between injuries result from being squeezed, caught, crushed, pinched or compressed between two or more objects.
  
- **Caught-in/between accidents can occur between:**
  - One moving and one stationary object.
  - Two or more moving objects.
  - Within machinery with moving parts.
  
- **Examples of caught-in/between accidents include being:**
  - Buried by loose earth when the walls of a trench collapse.
  - Crushed between vehicles, equipment or materials.
  - Caught and drawn into operating machinery.

- **Workplace accidents like these, and the injuries they cause, are unpleasant to think about.**
  - But the better we understand these hazards, the easier it will be to recognize them on our job sites, and take steps to prevent accidents before they occur.
  
- **The Occupational Safety and Health Administration (OSHA) has grouped the most common types of caught-in/between accidents into three categories.**
  - The first two are called "buried in or by" and "pinned between" accidents.
  - The third category involves situations where workers are caught in unguarded machinery.
  
- **Most "buried in or by" accidents happen in trenching work, when the walls of an unprotected trench collapse.**
  - Since a square yard of soil can weigh a ton or more, trench cave-ins can easily crush or suffocate people.
  
- **Being trapped in a trench can also expose workers to other hazards, such as:**
  - Contaminated atmospheres.
  - Exposed utility lines.
  - Water, sewage or chemicals that have collected there.
  
- **These can cause poisoning, burns, electrocution and even drowning.**
  
- **Trenches are not the only danger zones. "Buried in or by" accidents can also result from:**
  - Scaffolding that collapses on workers.
  - Walls that cave in unexpectedly during demolition work.

- **"Pinned between" accidents occur when workers are caught between:**
  - Equipment, such as a forklift, and a solid object, like a wall.
  - Materials that are being stored and objects such as a parked vehicle or piece of equipment.
  - Construction materials and the shoring system of a trench.
  
- **"Pinned between" hazards can result in serious injuries, including broken bones, asphyxiation, or even death.**
  
- **The power tools, machinery and other equipment that are indispensable to so many construction jobs can also "do a job" on you if you're not careful.**
  - When their moving parts are not properly guarded, your hands, feet or the clothing you're wearing can get caught in them.
  - You can also be drawn into equipment that starts up unexpectedly while you're servicing it.
  
- **Just like other "caught-in/between" situations, these can cause serious injuries, including strangulation, crushing, amputation or death.**
  
- **As we've discussed, all of these caught-in/between hazards can be prevented.**
  - For instance, the "buried in or by" hazards that you may encounter in a trench, while you're working around scaffolding or during demolition work can be addressed by safety policies and procedures that are implemented by your employer.
  
- **To combat trenching and shoring hazards they will follow OSHA's Trenching and Shoring Standard's guidelines...**
  - Assessing your work sites to identify and resolve potential hazards.
  - Installing protective systems to prevent cave-ins or protect you from their effects.
  - Implementing procedures for preventing equipment and materials from falling into a trench.
  - Training you on how to recognize unsafe trenching conditions and avoid them.

- **The safe work practices that you can use to reduce your caught-in/between risk while around a trench include:**
  - Never working in an unprotected trench that is 5 or more feet deep.
  - Never entering a trench of any depth that has not been approved for work by the "competent person" who is overseeing the project.
  - Always staying inside a trench's protective system.
  
- **If a trench cave-in does occur, do not enter the trench to try to rescue a coworker.**
  - You could get trapped by a secondary cave-in and become a casualty yourself.
  
- **To avoid being "buried in or by" excavated soil:**
  - Never pass underneath or work below loads that are being handled by lifting or digging equipment.
  - Always stand clear of any vehicle that is being loaded or unloaded.
  
- **OSHA has also established standards for scaffolding construction and demolition procedures that help to reduce the risk of workers being buried during these activities.**
  
- **To prevent collapses, all scaffolding work must be performed under the supervision of a competent person, who ensures that proper procedures are followed.**
  
- **During demolition work:**
  - Free-standing walls that are more than one story tall and were not designed to stand alone, or are thought to be unsafe, must be reinforced with lateral bracing.
  - All jacks and raised loads must be cribbed, blocked or otherwise secured.

- **To protect yourself from caught-in/between hazards involving vehicles and heavy equipment, you should start with the basics.**
  - Make a habit of knowing where all of the machinery is on your job site.
  - Use caution while you're in its vicinity, whether it's operating or not.
  - Stay a safe distance away at all times.
  - Pay special attention to equipment that is backing up.
- **Some "pinned between" accidents occur when vehicles or equipment tip over because of soft or uneven ground on a site.**
  - Your employer will have taken steps to address hazards like these, but keeping your distance will keep you safe if a tipover or other mishap does occur.
- **Certain types of equipment, such as backhoes, cranes and excavators, have booms that swing back and forth as they operate.**
  - Sometimes the superstructure of the machinery may rotate as well.
  - The ground that is covered when they move is called their "swing radius".
- **This swing radius can be a serious caught-in/between danger zone.**
  - Always stay out of the radius area to avoid being caught between the body of the equipment and its moving parts.
- **Never stand between the swinging parts of the machines and stationary objects, such as the walls of a trench, stacks of materials or other equipment.**
- **Don't put yourself between loads of materials that are being hoisted and any immovable objects, either.**
  - Make sure that loads that are being lifted are rigged so that they remain stable while they're being moved, and that they are stacked securely.

- **To avoid caught-in/between accidents while you're maintaining or repairing vehicles or heavy equipment:**
  - Always turn the machine off before you begin work.
  - Never work on a machine if you have not been trained for it.
  
- **You employer will have lock-out/tag-out procedures in place to ensure that equipment is not accidentally energized while you're working on it.**
  
- **Lock-out/tag-out is required for all equipment that is used in concrete and masonry operations, and many other types of equipment as well**
  - To find out more about your lock-out/tag-out program, talk to your supervisor.
  
- **To ensure that equipment is safe before you start any maintenance or repair work, or when shutting it down, always fully lower or block blades, buckets, load beds and any other moving parts that could suddenly shift position.**
  
- **Powered tools and machinery on a job site can also create caught-in/between hazards.**
  - "Machine guards" should prevent workers from coming into contact with their moving parts.
  - Machine guards that are out of adjustment, disabled or missing can create very dangerous situations for people who work on or around the equipment.
  
- **Since these tools have to be powerful to handle day-to-day construction tasks, if their moving parts catch hold of a hand, foot or piece of clothing, that power ends up being applied to your body, and the results can be tragic. So you should:**
  - Never use tools or machinery that you have not received training on.
  - Carefully inspect any equipment you are using before you start your work.
  - Check that machine guards are in place and working correctly.



- **If any of the guards are out of adjustment, fix them.**
  - If they are damaged or missing, replace them.
- **If all else fails, take the equipment out of service.**
  - Label it "damaged", so no one else uses it by mistake.
- **Never disable or remove the guards on any tool or machine yourself.**
- **Be careful not to wear anything that could get caught and cause you to be drawn into the equipment you're working with.**
- **You may find it necessary as part of your work to replace blades, bits or other parts on power tools and other equipment.**
  - To avoid caught-in/between accidents turn the equipment off and disconnect it from its power source before you begin.
  - If necessary, lock out and tag the power source so the machine can't be activated by accident.
  - Block or otherwise secure the machine's moving parts if you can, so they can't move.
- **If you need to remove a machine's guards to service it, make sure to put them back on and that they're working correctly when you're done.**

**\* \* \* SUMMARY \* \* \***

- **"Caught-in/between" hazards are one of the leading causes of fatalities in construction work.**
- **They occur when workers are caught, compressed or crushed between two or more objects, or in machinery.**
- **"Buried in or by" accidents occur most often in trenching work, so never enter an unprotected trench.**

- **Avoid "pinned between" accidents by being aware of all the vehicles and equipment on your job site.**
- **To avoid being caught in tools or machinery always inspect it, and don't use it if its guards have been disabled or removed.**
- **No matter how busy a job site becomes, caught-in/between hazards can't sneak up on you if you're looking for them.**
- **Now that you know what to watch for and how to combat any problems that you see, you and your coworkers can go home injury-free... every day!**