Trenching Hazards

Trenching Hazards are inherently hazardous environments. Cave-ins are a major concern and the hazard most likely to result in worker fatalities. Additional hazards such as a lack of (or failure to inspect) a protective system, unsafe placement of excavated material, hazardous atmospheres and improper means of access/egress can also lead to injury and illness.

You and your co-workers must fully understand the job-related hazards before performing trenching and other excavation activities.

What do you need to know about trenching hazards?

Protective Systems

A protective system, as defined by the Occupational Safety & Health Administration (OSHA), means a method of protecting. Protective systems include support systems, sloping and benching systems, shield systems, and other systems that provide the necessary protection.

A protective system should be used in a trench 5 feet or greater (and in some instances less than 4 feet deep). A competent person should evaluate the soil conditions to determine the appropriate protective system for the job. The underground utilities should be located prior to digging. If water accumulation is a problem, surface water should be controlled or diverted, and water intrusion countered by the use of pumping systems.

Trenches and other excavations should be inspected by a competent person each day before construction begins, as needed throughout the shift, and following any hazardous events (such as a rainstorm, vibrations, etc.).

Hazardous Atmospheres

A trench is a restricted space. As such, hazards such as oxygen deficiency and the presence of explosive gases, hydrogen sulfide and carbon monoxide should be considered and evaluated. During the daily trench inspection, a competent person should test the atmosphere for the presence of any of these hazards. The area should be properly ventilated and you and your co-workers should be trained in the use of personal protective and emergency response equipment.

Excavated Material

Excavated material becomes hazardous if placed too close to the trench—your spoil pile and equipment must be at least 2 feet or more from the edge. If a two foot buffer is not possible, the excavated material may need to be taken to another location.

Access/Egress

A safe means of entering and exiting the trench—stairways, ladders, ramps, etc.—must be available in areas that are 4 feet deep or more, and positioned within 25 lateral feet of you and other workers.

Remember, before entering and working in a trench, you and your co-workers must make sure that:

- A protective system is in place, with all equipment in good working order. Do not enter a trench that has not been protected.
- The trench and protective system have been inspected and approved by a competent person (including the testing of the atmosphere).
- Excavated material and equipment is placed at least 2 feet from the edge of the trench.
- A ladder, stairway or ramp is provided no more than 25 lateral feet from your working position.

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