

OSHA's 1926.651 - General Requirements...

Common Sense Steps to Insure Worker Safety

By David V. Dow, President, TrenchSafety and Supply, Inc.

Editor's Note: This is the first in a two-part series that discusses the General Requirements Section of OSHA's Subpart P regulations. Watch for the second installment in the next issue of Excavation Safety News.

The General Requirements Section of OSHA's Subpart P provides a number of common-sense steps to help insure worker safety. As with any OSHA Standard or other safety procedure, it is important to always remember that these are the minimum requirements, to insure safe job sites.

SURFACE ENCUMBRANCES: Examples include rocks, trees, telephone and utility poles, fire hydrants, etc. They need to be removed or supported while an excavation is open to insure their stability.

UNDERGROUND INSTALLATIONS: Examples include gas, electrical, water, sewer lines, etc. They



This major telephone cable would not have been cut if the contractor had done the proper checking beforehand.

must be:

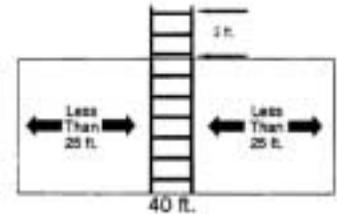
- Located and marked before beginning work. Property owners and/or utility companies should be notified at least 24 hours prior to digging, unless a longer time is required by local law. (Tennessee requires 72 hours. Most other states, including Arkansas and Mississippi require 48 hours.)
- Protected, supported, or removed while the trench is open.

Most states have so-

called "One-Call" laws. Tennessee, Arkansas, Mississippi, and the surrounding states are no exception.

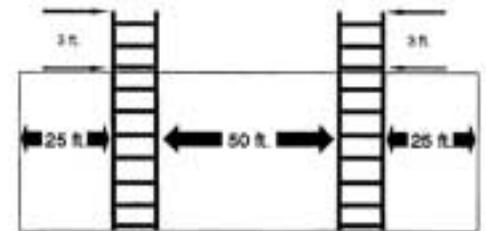
ACCESS AND EGRESS: These are fancy words for entering and exiting a trench. The requirements are:

- Provide trenches that are 4 feet or more in depth with a means of access and egress.
- Spacing between ladders, stairs, or ramps should not be more than 50 feet.
- Workers should not have to travel more than 25 feet laterally to a means of egress.
- Ladders must be secured, and extend 36" above the landing.



Minimum = 1 Ladder

Side View



100 ft.
Minimum = 2 Ladders

In addition, it is important to use wood or fiberglass ladders where there is a possibility of contact with electrical lines. Many utility companies and contractors always use wood or fiberglass ladders to insure there is never a problem.

A "Competent Person" must design all structural ramps used solely by employees. (See article on page 3 for OSHA's definition of a

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“Competent Person.”) Further, a competent person qualified in structural design must design all structural ramps used for equipment. Usually this person will be a registered professional engineer.

Finally, the components used in structural ramps must be connected, be of uniform thickness, be constructed so that cleats and other connectors don't create a tripping hazard, and they must be provided with cleats or other surface treatments to prevent slipping if ramps are used instead of steps.

EXPOSURE TO VEHICULAR TRAFFIC:

Employees must be protected from being struck by



The end-result of not properly controlling traffic around a work zone. Fortunately, no one was seriously injured in this accident or the rescue! There are a significant number of workers injured or killed each year in work zones. Two employees working on I-40 near Brinkley, Ark., were killed in September 2000.

motor vehicles. Also, employees must be provided with—and must wear—warning vests or other highly visible garments when exposed to traffic. Generally, employees are considered “exposed” when they are within the right-of-way. Signs, signals, barricades, and/or flagmen may be required.

EXPOSURE TO FALLING LOADS: The law is simple. The objective is to protect employees from being struck by falling objects.

- Employees are not permitted underneath raised loads.
- Employees are required to stand away from equipment that is being loaded or unloaded.
- Equipment operators or truck drivers may stay in equipment if it is properly equipped with a cab shield or adequate canopy.

WARNING SYSTEM FOR MOBILE

EQUIPMENT: Preventing vehicles from falling or backing into a trench can be accomplished by providing:

- Barricades
- Hand or mechanical signals
- Stop logs
- Grading away from the excavation

Equipment with an obstructed view is required to have working back-up alarms installed, or observers assigned when backing. *(Suggestion – Caution your employees not to be complacent around back-up alarms. On some projects, there are so many back-up alarms, employees may ignore them.)*

HAZARDOUS ATMOSPHERES: One of the Competent Person's responsibilities is to prevent employees from being exposed to hazardous atmospheres in the air or dangerous environments.

- Oxygen-Deficient Atmospheres – Normal air is 20.9% oxygen. An oxygen-deficient atmosphere has less than 19.5% oxygen.
- Oxygen-Enriched Atmosphere – It has 23.5% or more oxygen.
- Carbon monoxide causes oxygen starvation, and can be fatal at a concentration of just 1.0% for one minute.
- Hydrogen sulfide is a very common toxic gas, and methane is a very common flammable gas. Both are regularly found in underground construction, particularly around sewers.

If there is a possibility that a hazardous atmosphere exists, or could reasonably be expected to exist, the air should be tested before

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This newsletter provides a brief overview of safety regulations and systems. It is not intended to provide specific legal or engineering advice. Please refer to OSHA CFR 29, Part 1926, Subpart P, “Excavation and Trenches,” to other governmental regulations, and to manufacturers' instructions for specific information.

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McElrath and DeHan Join TrenchSafety in Arkansas

TrenchSafety is pleased to welcome Bill McElrath (left) and Glenn DeHan to our facility in Lonoke (Little Rock), Ark.



Bill and Glenn have spent a number of years in the construction equipment and materials business. Both worked for Choctaw, Inc., and later Brambles Equipment Services, Inc., in Little Rock.

TrenchSafety acquired Topcon Mid-South in Lonoke in January, 2000, and continues to do business under the Topcon Mid-South name. Look for the Mid-South Topcon name to slowly give way to TrenchSafety and Supply in the coming months.

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employees enter a trench or manhole. Provide respirators or ventilation when needed. And retest

Because it can be impossible to smell, feel, or taste a hazardous atmosphere, it is crucial to use a properly calibrated gas monitor to check the air inside a confined space.



the air often to insure that the trench remains safe.

At the beginning of this article, we said that these were all “common sense” items. But keep in mind also that, *they are also the law.*

Be sure to see the second installment of this discussion of OSHA’s Subpart P General Requirements in the next issue of Excavation Safety News.

“Competent Person” Responsibilities

OSHA defines a “Competent Person” as “one who is capable of identifying existing or predictable hazards in surroundings or working conditions which are unsanitary, hazardous, or dangerous to employees, and who has authorization to take prompt corrective measures to eliminate them. When applied to trenching or excavation operations, the Competent Person must have specific training in, and be knowledgeable about, soil analysis, the use of protective systems, and requirements of the standards.” Note that a Competent Person must be on every jobsite when workers are exposed in a trench or excavation.

RESPONSIBILITIES

- Authority to stop work – [1926.651(k)(2)].
 - Inspections of excavations for indications of possible cave-ins, failure of protective systems, hazardous atmospheres, and other hazardous conditions – [1926.651(k)(1)].
 - Inspections should be prior to the start of work, as needed throughout the shift, after rainstorms, and after other hazard-increasing occurrences – [1926.651(k)(1)].
 - Testing for hazardous atmospheres when such atmospheres exist or are reasonably likely to exist – [1926.651(g)(1)(i)].
 - Inspections of material or equipment, if damaged, to determine if usable – [1926.652(d)(3)].
 - Monitoring of water removal equipment and operations – [1926.651(h)(2)].
 - Visual and manual tests of soils to determine type – [1926 Appendix A section (d)(1)(i)-(vii)].
- Any way you look at it, being a Competent Person is a big responsibility.

FREE Safety Poster

We have a **FREE safety poster** for you that will remind your crews of the importance of using trench boxes and other safety precautions when working in excavations.

Call **TODAY** for your **FREE poster!**



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Training Schedule - Winter 2000-01

More than 5,000 people have attended TrenchSafety's training programs since they began five years ago. Another valuable series of seminars is coming up at locations throughout the Mid-South.

"COMPETENT PERSON" TRAINING

OSHA requires that a "competent person" be on your construction or maintenance site whenever workers are exposed in an excavation.

Applied to trenching or excavation operations, the competent person (CP) must have specific training and be knowledgeable of the requirements of the standard, soils analysis, and use of protective systems. In addition, the CP must

"Competent Person" Classes

- Thursday, Nov. 16 - Memphis
- Thursday, Dec. 7 - Little Rock
- Thursday, Jan. 11 - Memphis
- Thursday, Jan. 25 - Little Rock
- Thursday, Feb. 8 - Memphis
- Thursday, Mar. 1 - Little Rock

have authority to take immediate correct measures to eliminate any unsafe conditions. TrenchSafety

and Supply's Competent Person Training Program, approved by the National Utility Contractors Association (NUCA), is designed to help you meet OSHA's training requirements.

The one-day sessions run from 8:30 a.m. to 4:30 p.m. Cost is **\$85 per person**, and includes lunch. Each student receives an instructional workbook that will serve as a valuable reference later, and a wallet card and certificate from NUCA signifying completion of the course.



These two safety classes are approved by the National Utility Contractors Association.

"CONFINED SPACE" TRAINING

OSHA also mandates that employers provide a safe workplace for their employees. Each year, thousands of workers who enter confined spaces—manholes, pipelines, sewers, utility vaults, etc.—face significant risk of injury or death because of limited openings, poor ventilation, or hazardous atmospheres.

"Confined Space" Classes

- Thursday, Dec. 14 - Memphis
- Thursday, Mar. 22 - Little Rock

Our "Confined Space Entry" training is designed to improve awareness of such hazards, and provide managers and confined-space entry supervisors with the basic information to establish a confined-space safety program. In addition, a wide variety of information on protective devices is presented.

The one-day training session begins promptly at 8:30 a.m., and ends at 2:30 p.m. The cost is

\$85 per person, and includes lunch, an instructional workbook, and a wallet card and certificate from NUCA signifying completion of the course.

Other Training Classes

TrenchSafety now offers classes on the safe and efficient use of laser-controlled motorgraders and asphalt pavers.

Each topic will be covered in four hours of classroom time and two hours of actual "hands-on" use of the machines.

Call today for details.