

15.18 Scope:

Most Trench Operations should be handled under the Confined Space Rescue Standard Operating Guidelines. Like Confined Space Rescue, trench work by contractors must be performed safely with adequate shoring material and rescue equipment. Any accident or fatality associated with a trench will also be thoroughly investigated by the Occupational Safety and Health Administration (OSHA). The main goal of the Incident Commander shall be to prevent additional injuries to by-standers and rescue personnel.

This Standard Operating Guideline is intended to provide an overview of Command and control of a trench rescue operation. The department will act in its capacity under NFPA 1670 Awareness Level Standards.

15.1801 First Arriving Unit:

- A. Establish incident command structure. Incident Command should be established immediately upon arrival at the scene to coordinate and control bystanders, other workers, and any specialized agencies that may be utilized. Remember that the Incident Commander is responsible for all people on the scene and the victim(s) fellow workers who may have to be managed to prevent further injuries.
- B. Position apparatus no closer than 300 feet to the scene, walk to the collapse site.
- C. Establish an off-site staging area for other responding apparatus.
- D. Shut parked apparatus off if possible.
- E. Request mutual-aid resources for assistance with their trench rescue teams and equipment.

15.1802 Size-up:

Command shall make a careful size-up before deciding on a commitment. It may be necessary to wait for additional resources before taking any immediate action. Citizens and co-workers will want immediate action taken to rescue victims, but this may cause an undue risk to Fire Department personnel.

The objective of the size-up is to identify the nature and severity of the immediate problem and gather sufficient information to formulate a valid action plan. A trench rescue incident requires a more cautious and deliberate size-up than most fire situations.

If the victim(s) is yelling or speaking, their breathing is likely adequate. Death by suffocation can occur within 4 - 6 minutes, so in many cases, the victim that is totally buried is not likely to be a viable patient upon arrival of the fire department.

15.1803 Action Plan:

- A. Establish a Safety Officer
- B. Establish an outer perimeter circle (Cold Zone)
 1. Eliminate sources of vibration out to 500 feet from the collapse site.
 - a. Stop and shut off all construction equipment.
 - b. Halt any drilling and/or blasting operations being conducted in the area.
 - c. Stop and re-route traffic.
 2. Identify witnesses to the incident.
 3. Identify the job foreman, supervisor and/or engineer if on site, or the phone number of the engineer in charge.
 4. Determine availability, quantity and size of shoring material on site.
 5. Determine the time when the accident occurred.

- C. Establish an inner perimeter circle (Hot Zone)
1. Establishing an incident inner perimeter circle, a minimum of 100 feet around the trench collapse site. Complete outlining of the inner perimeter circle with fire-line tape and establish an entry/exit point into the collapse site.
 2. Approach site from the narrow end of the extrication.
 3. Conduct a visual inspection of the trench walls to determine type of soil involved in the trench collapse.
 4. Attempt to identify the victim(s) location
 - a. Determine if available on site shoring material is of sufficient quantity and size.
 - b. Identify the number of victims.
 - c. Establish the victim(s) condition if possible. (Do not enter any trench without adequate shoring for any reason.)
 5. How is the victim trapped? (Rescue vs. Body Recovery)
 - a. Totally buried.
 - b. Depth buried.
 - c. Trapped by utilities, if so notify proper utilities.
 - d. Establish and maintain contact with victim(s) if not totally buried.

15.1804 Incident Control:

- A. Immediately get non-entrapped personnel out of the trench.
 1. Place a ladder in the trench at the short end to assist non-injured victims out of the trench.
- B. Confirm notification of proper utilities.
- C. Begin clearing and leveling site for ground pads utilizing
 1. Fire and rescue personnel (leaving apparatus in staging area)
 2. Construction personnel to assist at ground level gathering lumber, hand digging moving spoil piles, and moving excess construction materials away from emergency site, etc.
- D. Ground pads need to be installed ahead of the work areas. Personnel shall not walk around the trench site without ground pads in place.
- E. The location of any tension cracks shall be immediately transmitted to the IC and the Rescue Safety Officer.

15.1805 Safety:

- A. Trench collapse usually occurs because of:
 1. Lack of shoring.
 2. Shoring not properly installed.
 3. Shoring being constructed of improper sized materials.
 4. Placing the spoil pile too close to the edge of the trench.
 5. Placing supplies too close to the trench.
 6. Allowing operating equipment, construction operations, blasting or moving traffic to cause vibrations near the trench.
 7. All such operations within 300 feet of the trench should be stopped.
Emergency response vehicles shall park at least 300 feet away from the trench.
 8. Ground pads (4 X 8 sheets of plywood) or ladders should be placed adjacent to the trench wall to protect rescuers working around the trench.
 9. It is imperative the Safety Officer work closely with the IC to ensure the safety of all personnel working in and around the trench site.
- B. Air monitoring devices, rescue harnesses, SCBA, rescue rope and protective equipment as outlined in the Confined Space Rescue Standard Operating Guidelines shall be utilized

15.1806 Use of Non-Fire Department Personnel:

In some cases, it may be advantageous to use non-Fire Department personnel to evaluate hazards and perform certain functions for which they would have particular experience, ability or equipment. This practice should only be conducted under the supervision and direction of a qualified trench rescue team.

15.1807 Post-Incident Analysis:

All personnel that participated in the emergency shall be required to attend the post incident analysis.