

Trench Rescues

316.1 PURPOSE AND SCOPE

Trench rescue operations involve a complex system of shoring, digging and special resources, and can be a critical danger to fire personnel. The purpose of this policy is to minimize member exposure to hazardous conditions during trench rescues through the safe and efficient management of operations (29 CFR 1926 Subpart P).

316.1.1 DEFINITIONS

Definitions related to this policy include:

Excavation - Any man-made cut, cavity, trench or depression in the ground.

Trench - A narrow (in relation to length) excavation made below the surface of the ground that is generally deeper than it is wide and is not wider than 15 feet (29 CFR 1926.650(b)).

316.2 POLICY

It is the policy of the Fresno County Fire Protection District to use standardized procedures and relevant training to minimize the exposure to hazardous conditions to rescue personnel during trench or excavation rescues.

316.3 PROCEDURES

Secondary collapse must always be considered as a potential hazard during trench rescues. Suffocation, extreme pressure and trauma can all occur due to the weight of a cave-in. There may be times when it is necessary to place the safety of the firefighter above the rescue of a victim, who clearly has no chance of survival.

- (a) Using the Incident Command System (ICS), the first-in company shall attempt to determine the following:
 1. Who is in charge at the site and what happened?
 2. How many victims are trapped and where are they located?
 3. Is a rescue possible or is this a body recovery?
 4. What kind of material is covering the victims (e.g., dirt, sand, rock)?
- (b) An extrication and safety officer should be assigned to:
 1. Determine what kind of material is covering the victims (e.g., dirt, sand, rock).
 2. Monitor the status of all personnel involved in the rescue.
 3. Monitor the site for signs of potential secondary collapse (e.g., surface cracks, shoring with signs of bending, falling debris).

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- (c) A hazard zone should be established within a 50-foot perimeter around the incident site using ICS methods. Apparatus, equipment, traffic and staging distance should be set at a distance that will minimize vibrations at the site.
- (d) Minimally, the equipment required to be available for rescue personnel to enter a trench or excavation should include (29 CFR 1926.651(g)(2)(i)) the following:
 - 1. A self-contained breathing apparatus (SCBA)
 - 2. A safety harness or line, or a basket stretcher
 - 3. A helmet
- (e) When determining whether the trench or excavation is safe for emergency responders to enter, the following will be considered:
 - 1. Adequate ventilation has been established (29 CFR 1926.651(g)(1)(iii)).
 - 2. When ventilation is in place, the air quality is being periodically tested (29 CFR 1926.651(g)(1)(iv)).
 - 3. If water accumulation is a factor, protection from water hazards is in place (29 CFR 1926.651(h)).
 - 4. Adequate protection for people working in the trench or excavation, in the form of shields, supports or sloping, and benching systems have been established (29 CFR 1926.652(a); 29 CFR 1926.652(g)).
- (f) If the rescue effort is protracted, personnel may need to be rotated and/or additional alarms requested for appropriate relief.