

- Check-in/check-out.
- The employer shall maintain a check-in/check-out procedure that will ensure that above-ground personnel can determine an accurate count of the number of persons underground in the event of an emergency.
- However, this procedure is not required when the construction of underground facilities designed for human occupancy has been sufficiently completed so that the permanent environmental controls are effective, and when the remaining construction activity will not cause any environmental hazard or structural failure within the facilities.

OSHA Specific Requirements

1926.800(c)



Safety Instruction

1926.800(d)

- All employees shall be instructed in the recognition and avoidance of hazards associated with underground construction activities including, where appropriate, the following subjects:
- Air monitoring:
- Ventilation:
- Illumination:
- Communications:
- Flood control:
- Mechanical equipment:
- Personal protective equipment:
- Explosives:
- Fire prevention and protection: and
- Emergency procedures, including evacuation plans and check- in/check-out systems.



Emergency Provisions

1926.800(g)(1)

- Hoisting capability.
- When a shaft is used as a means of egress, the employer shall make advance arrangements for power-assisted hoisting capability to be readily available in an emergency, unless the regular hoisting means can continue to function in the event of an electrical power failure at the jobsite.
- Such hoisting means shall be designed so that the load hoist drum is powered in both directions of rotation and so that the brake is automatically applied upon power release or failure.



Emergency Provisions

1926.800(g)(2)

- ***Self-rescuers.***
- The employer must provide self-rescuers approved by the National Institute for Occupational Safety and Health under 42 CFR part 84.
- The respirators must be immediately available to all employees at work stations in underground areas where employees might be trapped by smoke or gas.
- The selection, issuance, use, and care of respirators must be in accordance with 29 CFR 1926.103.



Emergency Provisions

1926.800(g)(3)

- Designated person.
- At least one designated person shall be on duty above ground whenever any employee is working underground.
- This designated person shall be responsible for securing immediate aid and keeping an accurate count of employees underground in case of emergency.
- The designated person must not be so busy that the counting function is encumbered.



Emergency Provisions

1926.800(g)(4)

- Emergency lighting.
- Each employee underground shall have an acceptable portable hand lamp or cap lamp in his or her work area for emergency use, unless natural light or an emergency lighting system provides adequate illumination for escape.



Emergency Provisions

- Rescue teams.
- On jobsites where less than 25 employees work underground at one time, the employer shall provide (or make arrangements in advance with locally available rescue services to provide) at least one 5-person rescue team to be either on the jobsite or within one-half hour travel time from the entry point.

1926.800(g)(5)(ii)



Hazardous Classifications

1926.800(h)(1)

- Potentially gassy operations.
- Underground construction operations shall be classified as potentially gassy if either:
 - Air monitoring discloses 10 percent or more of the lower explosive limit for methane or other flammable gases measured at 12 inches (304.8 mm) to + or - 0.25 inch (6.35 mm) from the roof, face, floor or walls in any underground work area for more than a 24-hour period: or
 - The history of the geographical area or geological formation indicates that 10 percent or more of the lower explosive limit for methane or other flammable gases is likely to be encountered in such underground operations.



Air Quality and Monitoring.

1926.800(j)(1)(i)(B)

- Where this paragraph requires monitoring of airborne contaminants "as often as necessary," the competent person shall make a reasonable determination as to which substances to monitor and how frequently monitor, considering at least the following factors:
- Location of jobsite: Proximity to fuel tanks, sewers, gas lines, old landfills, coal deposits, and swamps;
- Geology:
- History: Presence of air contaminants in nearby jobsites, changes in levels of substances monitored on the prior shift; and
- Work practices and jobsite conditions: The use of diesel engines, use of explosives, use of fuel gas, volume and flow of ventilation, visible atmospheric conditions, decompression of the atmosphere, welding, cutting and hot work, and employees' physical reactions to working underground.



Air Quality and Monitoring.

1926.800(j)(3)

- Recordkeeping.
- A record of all air quality tests shall be maintained above ground at the worksite and be made available to the Secretary of Labor upon request.
- The record shall include the location, date, time, substance and amount monitored.
- Records of exposures to toxic substances shall be retained in accordance with 1926.33 of this chapter.
- All other air quality test records shall be retained until completion of the project.



Ventilation

1926.800(k)(1)

- Fresh air shall be supplied to all underground work areas in sufficient quantities to prevent dangerous or harmful accumulation of dusts, fumes, mists, vapors or gases.
- Mechanical ventilation shall be provided in all underground work areas except when the employer can demonstrate that natural ventilation provides the necessary air quality through sufficient air volume and air flow.
- A minimum of 200 cubic feet of fresh air per minute shall be supplied for each employee underground.



Fire Control

1926.800(m)(7)

- Flammable or combustible materials shall not be stored above ground within 100 feet (30.48m) of any access opening to any underground operation.
- Where this is not feasible because of space limitations at the jobsite, such materials may be located within the 100-foot limit, provided that:
 - They are located as far as practicable from the opening; and
 - Either a fire-resistant barrier of not less than one-hour rating is placed between the stored material and the opening, or additional precautions are taken which will protect the materials from ignition sources.



Oxygen and acetylene stored together is a violation.

Fire Control

1926.800(m)(9)

- Lighting fixtures in storage areas, or within 25 feet (7.62 m) of underground areas where oil, grease, or diesel fuel are stored, shall be approved for Class I, Division 2 locations, in accordance with Subpart K of this part.



Portal Areas

1926.800(o)(3)

- Competent persons conducting such inspections shall be protected from loose ground by location, ground support or equivalent means



Portal Areas

1926.800(o)(3)

- Suitable protection shall be provided for employees exposed to the hazard of loose ground while installing ground support systems.



OSHA Citations

- Fall Protection



OSHA Citations

- Fall Protection



OSHA Citations

- Ladder



OSHA Citations

- Unapproved rigging



OSHA Citations

- Ladder



OSHA Citations

- Fall Protection



OSHA Citations

- Lighting



OSHA Citations

- Fall



OSHA Citations

- Rigging
- no capacity marked



OSHA Citations

- GHS
- Spill Control



OSHA Citations

- Fall



OSHA Citations

- Homemade drum carrier

