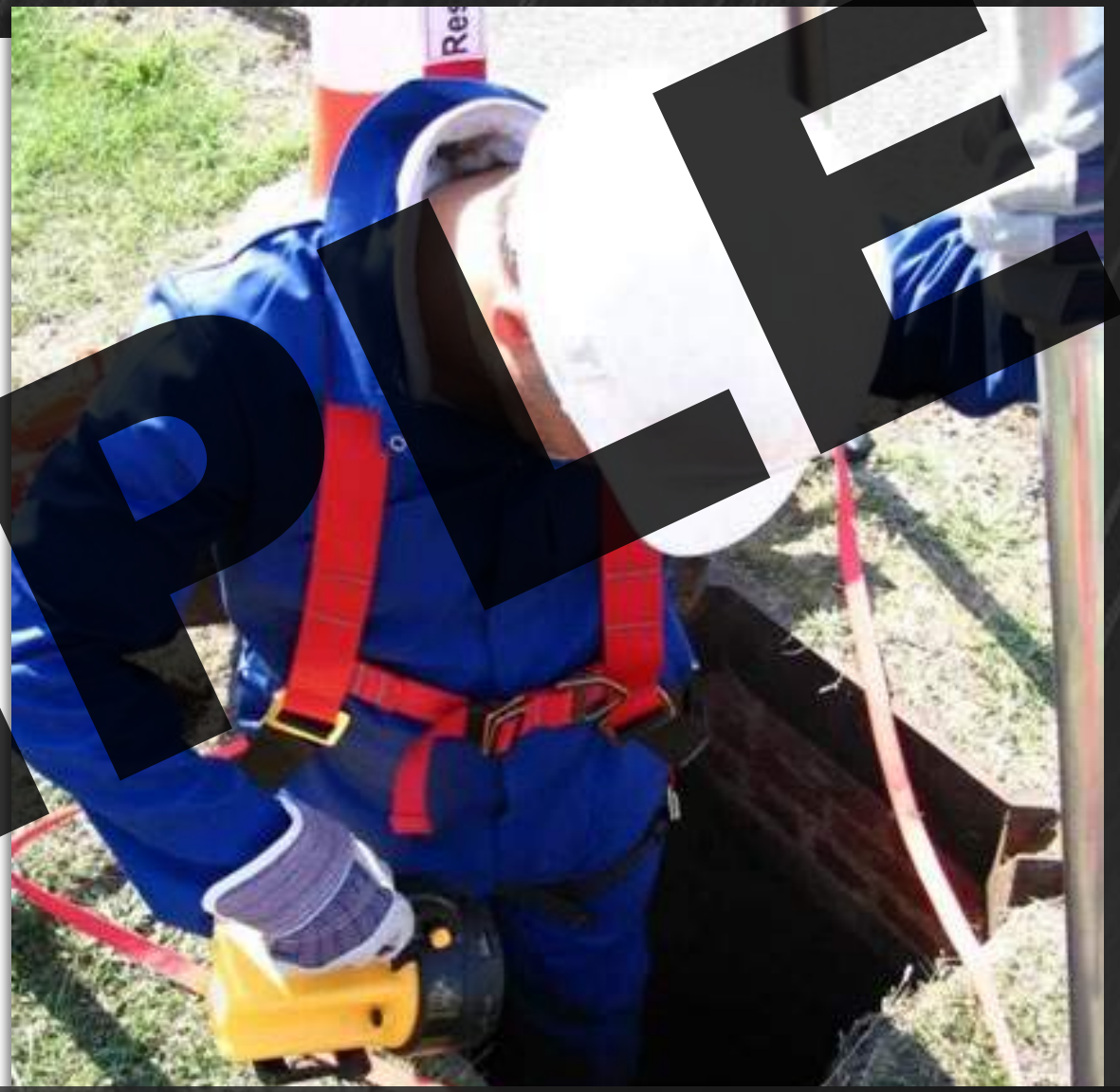
Competent Person

During confined space operations, there should always be a competent person on site. In this module, we will go over the competent person's responsibilities, including determining the type of confined space, testing the atmosphere, and responding to emergencies.

DEFINITION: Competent Person

A competent person is someone the employer chooses at each worksite according to their experience, skill, and knowledge of the job. A competent person works as an extension of the safety officer and employer and is responsible for identifying hazards and using their authority to take corrective action.

A competent person is a necessity when it comes to confined space work. If a competent person is not present during a confined space operation, accidents can happen.



DID YOU KNOW?

Over 150 employees die each year in confined spaces. Of these 150 fatalities, 60% are due to other employees trying to rescue their coworkers and dying in the process.

FOR EXAMPLE

Three employees at a construction site were replacing a sump pump that collected water from a nearby landfill in an underground lift station. The first employee who entered the confined space passed out, so another employee went in to help. After the second employee passed out, a third employee went in, only to pass out as well.

Rescuers determined that the employees were exposed to 200 parts per million (ppm) of hydrogen sulfide gas and asphyxiated. The subsequent investigation revealed later that a competent person did not evaluate the area and label it a permit-required confined space before work began.

STANDARDS

Though we already mentioned the standards, it is your responsibility to know them. Once again, there are many standards that are applicable to confined space operations. Read through them and ensure you are abiding by the standards.

29 CFR 1910.146 – Permit-Required Confined Spaces
29 CFR 1910.146(j) – Entry Supervisor
29 CFR 1915 Subpart B – Confined and Enclosed Spaces and Other Dangerous Atmospheres in Shipyard Employment
29 CFR 1926.800(j) – Air Quality and Monitoring
29 CFR 1926 Subpart AA – Confined Spaces in Construction

Responsibilities

In addition to the competent person duties outlined in this module, you may be assigned to be the entry supervisor. The entry supervisor checks the entry permit to ensure that all tests have been performed. They also authorize and oversee confined space entry and cancel the entry permit when unsafe conditions arrive.

When acting as entry supervisor, you must ensure that entrants and attendants are performing their duties. Entrants are employees who are authorized to enter a confined space. Attendants are employees who are assigned to monitor the entrant within the confined space. We will cover more specific duties for these employees later in the course.

Inspections

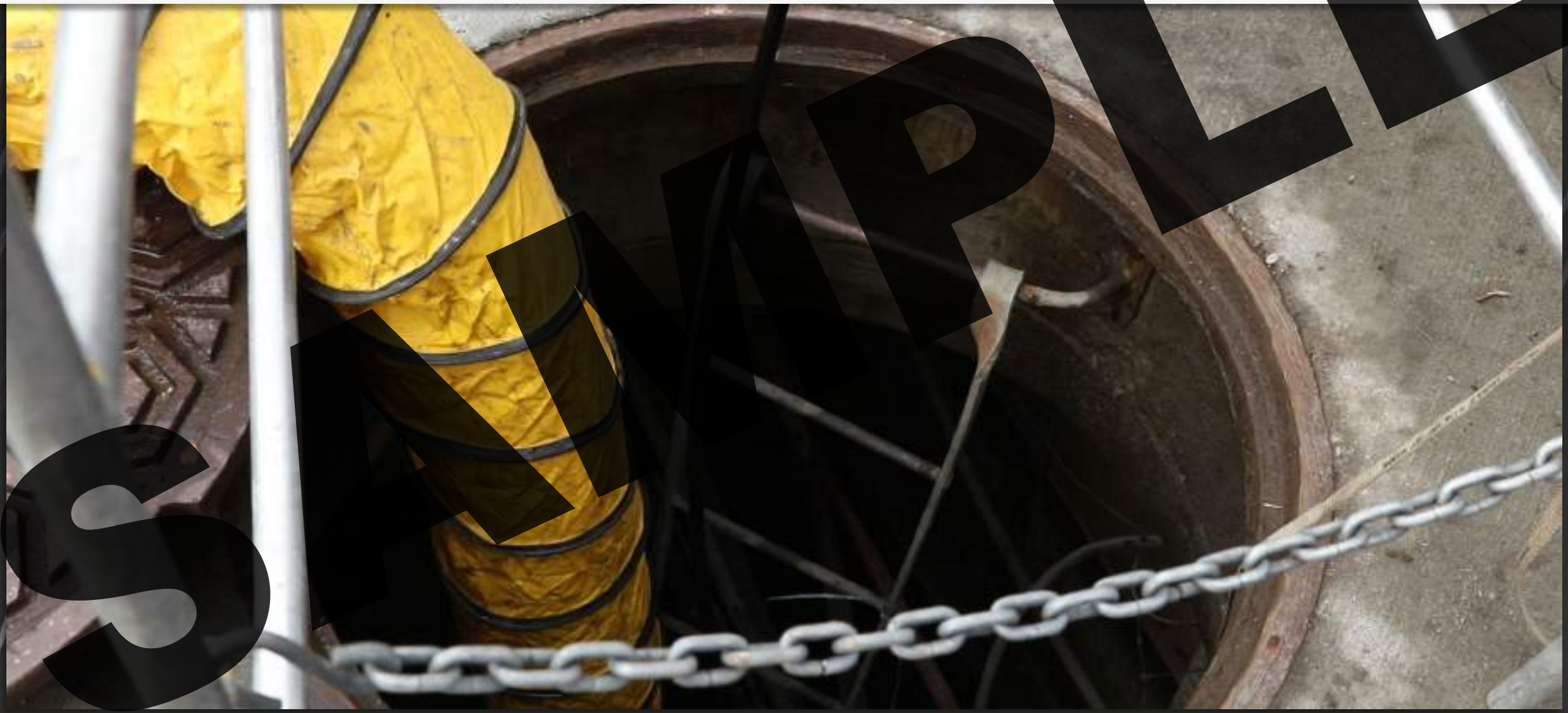
It is your responsibility as the competent person to determine whether a confined space is permit-required or non-permit required. You make this determination by performing inspections that help you evaluate the space based on specific criteria.

REMINDER

Permit-required confined spaces may exhibit several characteristics. They could house hazardous substances, have the potential to engulf or trap an entrant, or contain a hazardous or potentially hazardous atmosphere.

On the other hand, non-permit required confined spaces do not pose a serious threat to an entrant's life or health. Specifically, they do not contain a hazardous atmosphere or any other hazardous substances.

There are some indicators you should look for during your inspection. The space may be permit-required if it is sealed; has no ventilation; contains or has contained combustible or flammable liquids or gases; has been fumigated; contains materials or residue that create an oxygen-deficient atmosphere; or could engulf or trap an entrant.



Note that whenever there are changes to a non-permit required confined space, you must re-evaluate the space and determine whether it needs to be re-defined as permit-required. Such changes could be as simple as an increase in the hazards detected inside the space.

Testing

After performing an inspection, there are several tests that you will perform to help you fully identify what hazards are present in the confined space at any given time. These include evaluation tests and verification tests, as well as continual monitoring.

Evaluation Testing

The purpose of evaluation testing is to detect which chemical hazards are present or may become present in the space. It also helps you to identify what steps employees must follow and what conditions must be present to ensure atmospheric conditions are safe for entry.

When performing an evaluation test, use an atmospheric monitor that is capable of measuring several different gases. The device must also be capable of testing oxygen content, flammability, and toxicity levels of common gases.

The results of your evaluation testing and any steps that you determine employees must follow prior to entry should be reviewed by a technically qualified professional. This could be an OSHA consultation service, certified industrial hygienist, registered safety engineer, or certified safety professional.

Verification Testing

Before employees can begin confined space operations, they must perform verification testing to ensure that the chemical hazards which may be present in the space are below the levels necessary for safe entry. This process will involve performing atmospheric testing as outlined in the permit.

Regulations require that you test in the order listed below. Note that oxygen content should be between 19.5 and 23.5%. Flammable gases, vapors, and dusts must be less than 10% of the lower explosive limit. Toxic air contaminants must be below the permissible exposure limit (PEL) and threshold limit value or time-weighted average.

Different gases have different weights. In a confined space, gases like methane will rise, while gases like carbon monoxide or hydrogen sulfide will settle lower. In these layered or varied atmospheres, test the confined space at 4-foot (1.2 m) intervals in every direction of travel.

FOR EXAMPLE

If you enter a pit that's 12 feet (3.7 m) deep, you must perform testing at the entrance level, then at 4 feet (1.2 m), 8 feet (2.4), and 12 feet (3.7 m).

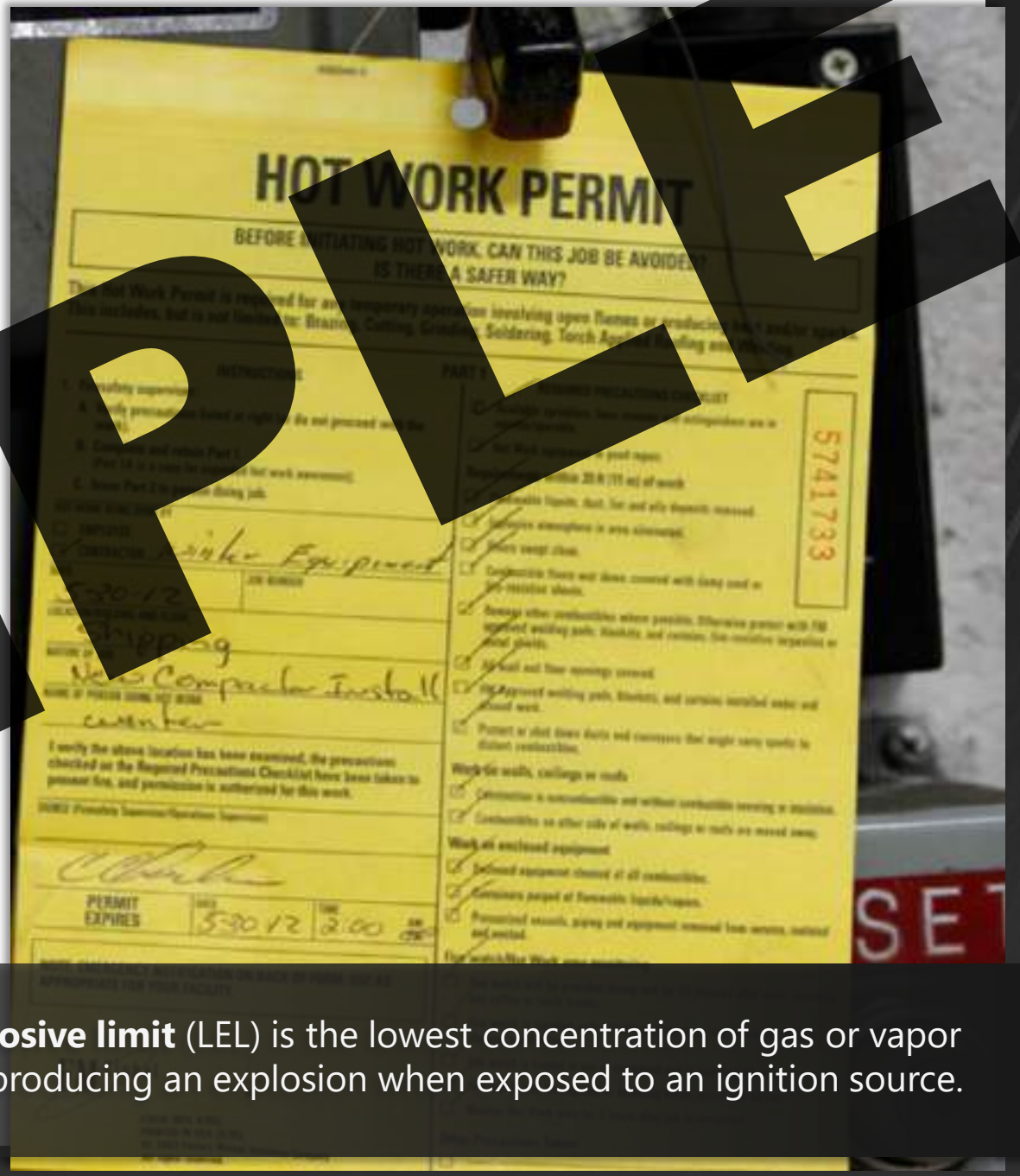
Monitoring

As the competent person, you will determine when and how often the confined space needs to be monitored. When doing so, consider the location of the jobsite and the history of the area.

If the space is near any landfills, swamps, sewers, or gas lines, or if there is a history of contaminants in the area, then the atmosphere must be monitored. These spaces are more likely to have a hazardous condition arise.

Hot Work

Before any hot work can be done, you must determine that any flammable vapors in the confined space are less than 10% of the lower explosive limit (LEL). Once you've verified this, a hot work permit can be issued.



DEFINITION

Lower explosive limit (LEL) is the lowest concentration of gas or vapor capable of producing an explosion when exposed to an ignition source.

If the concentration of flammable vapors is greater than 10% of the LEL, a ventilation system must be installed in the space to lower the concentration. After this system is installed, you can then test the atmosphere again to ensure the concentration is below 10% of the LEL.


Emergency Response
SAMPLE

As a competent person, you have an important role in emergency situations. You must know what hazards are present in the confined space as well as the symptoms of hazardous exposure. This will help you to recognize early exposure symptoms so that you can promptly remove an entrant from a dangerous situation.

If an attendant notices that the gas levels inside a confined space rise above 10% of the LEL or oxygen levels change and create a hazardous atmosphere, then you must ensure that all entrants are safely removed from the space. You must then post a notice on all entrances to the space that restricts access until further notice.

Rescue Services

You must know where the nearest rescue services are located and have a plan that details how to summon them when needed. If no rescue services are close enough, the employer may designate attendants to perform entry rescue.

If an attendant has been permitted to do an entry rescue, they must be trained in all rescue procedures. In an emergency situation when an attendant is going to perform entry rescue, you must make sure they have their protective equipment on before they enter the space.

REMINDER

Roughly 60% of confined space fatalities occur because attendants enter the space after the entrant becomes unresponsive. Do not allow employees to attempt a rescue unless they are adequately trained.