

Avoid Jobsite Injuries With a Confined Space Rescue Plan

By Rick Pedley | Tuesday, January 25, 2022

Safety, OSHA



Working in confined spaces can be dangerous on several fronts. These spaces often have a limited number of exits and entryways, making it difficult for workers to evacuate in an emergency. Employers need to have a robust confined space rescue plan in place to ensure they can safely get workers out of spaces when their health and safety are at risk.

The Occupational Safety and Health Administration (OSHA) has clear rescue guidelines for employees working in these areas. Managers can use the following guide to create a cohesive rescue plan for confined spaces.

KNOW THE RISKS

Employers need to understand the risks that come with working in confined spaces before putting together a rescue plan. A confined space is an area that's unfit for continuous worker occupancy but large enough for the person to enter and perform a task.

Common examples include:

- Storage tanks;
- Crawl spaces;
- Service tunnels;
- Sewers;
- Pipelines;
- Silos;
- Grain hoppers; and
- Underground vaults.



Confined spaces have poor ventilation with few points of entry. Working in these areas can be dangerous for several reasons. The presence of hazardous gases such as carbon monoxide, hydrogen sulfide and chlorine gas can reduce the amount of oxygen in the air. Exposure to these gases can also lead to short-term and long-term health effects, including fainting and death.

Airborne flammable materials should be closely monitored, as they can ignite when presented with an ignition source and lead to a flash fire. In a grain silo even dust may explode given the right circumstances, along with the possibility of engulfment. If workers need to be lowered into the confined space or work around openings in the ground, there's also a

chance they could fall and injure themselves. If liquids are involved, be aware that confined spaces can easily flood; they also tend to have poor lighting and low visibility.

MITIGATING POTENTIAL

Managers should start by evaluating the potential hazards of the worksite. Once these hazards have been identified, the team should look for ways to reduce their risk by wearing the proper PPE and safety equipment. Workers should have access to hardhats, helmets, as well as fall safety equipment, including a lanyard and fall arrest system, when working around elevated surfaces.

Managers should also test the space in question for the presence of hazardous gases before and continuously while working in the confined space. This includes using properly functioning multi-gas detectors. If there isn't enough oxygen, or hazardous gases are detected, the team will need to use blowers to increase ventilation and wear respirators or a self-contained breathing apparatus while working in the space. The gas monitor should go off if oxygen drops below the approved threshold or the target gases have surpassed either their toxic or lower explosive limits.

RESCUING WORKERS FROM CONFINED SPACES IN AN EMERGENCY

Employers should tailor their rescue plans based on the potential hazards their workers are facing. If the gas monitor goes off or a flash fire occurs, the team will need to escape the area as quickly as possible. There are a number of confined space retrieval systems to choose from. These kits are designed to help quickly and safely remove workers from the space in question. This may include using a tripod and winch to lift the worker out of the space. In other cases, workers may need to use a rescue ladder to help workers climb out of the space. Choosing the right kit all depends on the space.

Communication is also a key part of any rescue plan. Managers and crew members will need to keep in touch with each other while working in confined spaces. Conditions can easily change on a dime, so workers should be able to contact each other in an emergency.

EMPLOYEE TRAINING

The rescue plan won't be successful unless the workers know what to do in an emergency. Everyone on the crew should understand how to execute the rescue plan. A significant percentage of confined space deaths occur when untrained and improperly equipped workers try to rescue colleagues and end up getting caught themselves.

They should also be aware of the potential hazards that come with working in the space, including all possible warning signs that something is wrong. This includes looking out for symptoms of possible exposure to hazardous gases, such as dizziness, shortness of breath and fatigue. They should be able to recognize and react to the gas monitor alarm if it goes off; this should include flashing lights, vibrations and an audible alarm.

Everyone on the team should be able to find the closest exit in an emergency. They should wear headlamps or use a work light to find the exit if the space has low visibility.

Those not working in the space should be trained on the latest extraction techniques and equipment, so they can help the workers safely evacuate the area. They may have to work the winch, coordinate with local officials or physically lend a hand to assist in the rescue effort.

EMERGENCY SERVICE RESPONDERS


Emergency first responders may be mentioned as a part of the rescue plan, but they are not responsible for safety. In case the rescue plan has failed, it is a good idea to have the conversation in advance. Managers should begin coordinating with local officials before the work begins to keep everyone on the


same page.

When contacting emergency responders for help, managers should make sure to contact the right professionals for the task at hand. They should have already identified the service provider with the closest proximity to the worksite in advance. The provider should also review the plan to make sure to have the proper equipment and personnel available if needed. This may include respirators, safety harnesses and an appropriate extraction system to safely remove the worker from the confined space.

Managers will need to give the first responders vital information when contacting them for help, including their location, the type of emergency or hazard, and important health information about their workers. They should use a detailed map of the worksite or GPS device, so they can relay their exact location to the authorities. First responders should also make sure they have adequate information to respond to the emergency.

Employers have a responsibility to protect their workers from the hazards of confined spaces. It's all about using the right safety equipment, proper training and coordinating with the right officials.

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Rick Pedley joined the family business in 1979. PK Safety, a supplier of occupational safety and personal protective equipment and manufacturer of its own new FR line GRIT, has been operating since 1947 and takes OSHA, ANSI, PPE and CSA work safety equipment seriously.



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