Big Dangers Lurk in Confined Spaces

Safety Talk

What’s at Stake?

An average of two workers a week die in confined space incidents. A tragic example occurred in April 2013, where seven workers were killed in a tank that was undergoing maintenance and cleaning at a plant in Mexico City. Three of the seven killed were would-be rescuers – untrained and unprepared for confined space rescue.

What’s the Danger?

Confined spaces are dangerous because, while they are large enough for most people to enter, they have limited or restricted means of entry and exit. They are often not well lit, have temperature extremes, are noisy, tight and cluttered. The atmosphere might be flammable, filled with toxic fumes, or be low in oxygen.

How to Protect Yourself

Most confined space deaths are the result of employers and workers not recognizing and controlling the hazards associated with confined spaces. That's why pre-planning for confined space entry is a must.

Here are common procedures that should be done before confined space work begins:

- A written permit must be obtained for all permit-required confined spaces.
    - The permit must be read and signed by everyone involved in the confined space work.
- A rescue plan must be in place.
    - Knowing a plan is in place and help is on the way will make it less likely untrained personnel will try and attempt rescue.
- Everyone has a role: entrant, entry supervisor and attendant. There must be an entry supervisor and attendant for each confined space.
    - Before entry, the entry supervisor must identify and evaluate all existing and potential hazards, both outside and inside of the space, and make sure the entry permit is complete.
        - Tests should be made for oxygen level, flammability, and known or suspected toxic substances.
    - The attendant must remain outside the confined space, monitor the entrant(s) and activity in and around the space, and summon emergency rescue if needed.
        - No one should enter the space unless they have been trained and have the necessary personal protective equipment and other required equipment.
        - This means attendants and entry supervisors should never enter a confined space, even to attempt rescue.
    - The entrant must be trained on confined space entry, the hazards of the space and emergency procedures.
- Ventilate the area or purge it with inert gas that can't

explode.
    - Inert gas can cause an oxygen deficient atmosphere, but never use pure oxygen to purge a space because it is highly flammable.
- Remove possible sources of ignition and use non-sparking tools and lighting.
- Isolate electrical hazards and close off lines of flowing liquids or solids.
- Have all PPE and rescue and communication equipment ready and available prior to entry.
    - This includes lifelines, retrieval harnesses, testing devices, lighting and communications equipment.
- Finally, prevent pedestrians or vehicles from entering the work area.

Final Word

Be prepared for the dangers lurking in confined spaces. Thoughtful planning prior to entry can make the space and the work safer for everyone involved.