

## Confined Space Program Summary

The following written safety measures are intended to meet requirements contained in the OSHA Permit-Required Confined Spaces Standard. US BT expects that these measures will be reviewed with and adhered to by any employee who may have the responsibility of entering confined spaces during the course of his/her job duties.

All employees with active roles in and around permit spaces must be provided with the proper training and equipment as specified in this policy. These employees are defined as authorized entrants, attendants, entry supervisors, and rescue and emergency services personnel. Any US BT employees authorized to enter or perform any duties associated with confined spaces must complete the training program.

### **1.1 Identification and Evaluation of Confined Spaces**

Entry should be prohibited until atmospheric testing from the outside has been completed. The top, middle, and bottom of the space must be tested, as air contaminants which may be present can have different densities and therefore settle in different locations within the confined space. Parameters to be monitored include the oxygen content, the Lower Explosive Limit (LEL), and the concentration of toxic materials associated with the material storage inside the confined space. Testing should be conducted before each new entry, such as after breaks or lunch.

Atmospheres which are oxygen deficient (<19.5% oxygen) or enriched (>21.5%) flammable or explosive atmospheres, and toxic atmospheres are responsible for most confined space deaths. Other hazards to be cautious of include temperature extremes, noise, physical hazards such as trip and fall hazards, and chemical hazards generated as a result of material which was previously stored in the confined space. Chemical reactions which occur in the confined space can result in atmospheres which are toxic, flammable or explosive, or oxygen deficient/enriched atmospheres due to the worker operations taking place in the confined space.

Always test for three dangerous atmospheres: too little or too much oxygen, combustible or explosive gases or vapors, and toxic gases or vapors. Users of gas detectors must receive training on the detectors prior to using.

OSHA requires that the atmosphere in a confined space be monitored continuously – prior to entry, during entry, and occupancy. Sudden fluctuations in atmospheric conditions can cause a change from a safe to a hazardous environment in a very short time.

The [BT Confined Space Entry Permit](#) must be prepared for each job and reviewed prior to entry. The permit will help US BT employees identify potentially hazardous situations, and will also help to identify non-authorized entrants.

## **1.2 Entry Permit System**

An entry supervisor must authorize entry to a confined space, then must prepare and sign written permits, order corrective measures if necessary, and cancel permits when the work is completed. Permits must be available to all permit space entrants and should extend only for the duration of the work performed. Permits must be retained for a year after cancellation. This is required for future OSHA inspections.

The [BT Confined Space Entry Permit](#) form must be completed prior to any entry of a confined space. The entry permit must be present and displayed at the entry point of the confined space. Warning signs or danger signs should be posted outside of the confined space so to alert other workers.

The employer shall retain each canceled entry permit for at least one (1) year to facilitate the review of the permit-required confined space program mandated by Permit-Required Confined Spaces 29 CFR 1910.146 e(6). Any problems encountered during an entry operation shall be noted on the pertinent permit so that appropriate revisions to the permit space program can be made.

## **1.3 Ventilation**

The confined space should be vented or “purged” prior to entry and should continue to be vented during all work within the space until the work is completed. Ventilation equipment should be certified explosion proof and be capable of moving an adequate supply of air to effectively

ventilate the entire space. Cross-ventilation is the most effective method. If cross-ventilation is not possible, the space can be vented by using a fan or blower located outside of the space.

## **1.4 Personal Protective Equipment (PPE)**

US BT employees should never enter a confined space without the proper respiratory protection, a life line, and a safety harness. Life lines and harnesses must be strong enough to aid in removing an unconscious worker and must be securely attached. The type of safety harness may vary, but a full-body harness will usually be most effective. Other Personal Protective Equipment may include hard hats, goggles or face shields, ear plugs or muffs, gloves, protective clothing, safety shoes, and a lifting winch and lanyard if required for fall protection. See also the [BT Fall Protection Policy](#). All Personal Protective Equipment should be supplied by the branch. All equipment may be ordered through the company's program with Grainger.

Where flammables are present, all equipment must be explosion proof and intrinsically safe. Air driven tools are preferred over electric tools. Any cylinders of compressed air or any welding gases should never be brought into a confined space.

Any US BT personnel who will enter a space containing hazardous atmosphere must first receive a physical exam, and a fit test for the size and model of respirator required for entry. See also the [BT Respiratory Protection Policy](#).

Other safety equipment such as explosion proof flashlights, lights, fire extinguisher, and first aid kit should all be available and easily accessible.

## **1.5 Lock-Out and Tag-Out**

All electrical and mechanical systems to the confined space should be locked out and tagged. Employees must ensure that these systems have been neutralized by attempting to activate the system. Any product lines to the space need to be physically disconnected or blocked off to prevent an unexpected flow into the area. See [BT Lock-out/Tag-out \(Energy Control\) Policy](#) for more information.

## **1.6 Duties of Authorized Entrants**

Any US BT employee who works in a confined space must complete specialized training associated with this policy. To become authorized, each employee must get approval by the entry supervisor, and all employees who will be expected to perform a duty in the confined space must be listed as an authorized entrant on the entry permit.

Authorized entrants will be aware of any hazards associated with the entry of the confined space. Any entrant must make sure that they are properly fitted with any Personal Protective Equipment necessary to perform the function, as outlined above in the section entitled Personal Protective Equipment (PPE).

Entrants must communicate with the attendant as necessary to enable the attendant to monitor entrant status and to enable the attendant to alert entrants of the

need to evacuate the space, if necessary. The entrants must alert the attendant whenever any warning sign is recognized or symptoms of exposure to a dangerous situation exist.

Entrants must follow directions from the attendant or entry supervisor, especially when the order to exit is given.

### **1.7 Duties of Attendants**

Each attendant must be familiar with the confined space, the duties he/she is to perform, and any hazards that may exist within the confined space. They should be sure that the permit is completed and properly displayed at the confined space. They should also be sure warning signs are posted and that proper communication channels are established with the entrants prior to the entrants entering the confined space.

The attendant should be alert for any signs or symptoms of hazards that may appear. They must also be aware of possible behavioral effects of hazard exposure to entrants.

Attendants must maintain an accurate count of authorized entrants, and must make sure that any unauthorized entrants are not allowed to enter the confined space and are warned to stay away.

The attendant must maintain a position outside the confined space during the period of entrants' occupancy and any additional periods of time deemed necessary. The attendant must communicate with authorized entrants as necessary to monitor entrant status and to alert the entrants of the need to exit. Attendants must monitor

activities inside and outside the space to determine if it is safe to remain and continue work.

### **1.8 Duties of Entry Supervisor**

Entry supervisors must know the hazards that may be faced during entry, including information on the signs and symptoms and consequences of the exposure. They must verify that the entry permit is complete and accurate, that all tests have been conducted, and that all procedures and Personal Protective Equipment are utilized and supplied.

The entry supervisor should cancel the permit once the space has been vacated and no additional entry or occupancy is necessary. The entry supervisor is responsible for filing the canceled permit in the appropriate location for any future OSHA inspection.

The entry supervisor will verify that rescue services are available and that the means for summoning them are operable. If necessary, the entry supervisor will be involved in prohibiting unauthorized individuals from entering or endangering authorized entrants.

### **1.9 Rescue and Emergency Services**

Each member of the rescue service will be provided with and trained to properly use Personal Protective Equipment or any equipment necessary to evacuate or rescue an entrant.

Each member will be trained to perform the assigned rescue duties. Each member must also be required to complete training as provided for authorized entrants.

Each rescue service member must be trained in basic first aid and CPR, and at least one member will hold current certification in basic first aid and CPR.

Each member should practice making permit space rescues at least once every 12 months by means of simulated rescue operations. The simulated rescue should be under similar conditions with size and configuration of permit spaces which US BT normally encounters.

If US BT employees arrange for rescue services to be performed by other than US BT employees, they must be sure to inform the designated rescuers of the hazards associated with the permit space, and provide them with access to all permit spaces from which rescue may be necessary.

To facilitate non-entry rescue, retrieval systems or methods will be used whenever an authorized entrant enters a permit space, unless the retrieval equipment would increase the overall risk of entry or would not contribute to the rescue of the entrant. A chest or full body harness with a retrieval line attached will be used by the entrant. The other end of the retrieval line should be attached to a mechanical device or fixed point outside the permit space in such a manner that rescue can be performed expeditiously if necessary.

## **1.10 General Requirements**

- The job supervisor shall evaluate the workplace to determine if any spaces are permit-required confined spaces.
- If the workplace contains permit spaces, employees working on the job should be informed, by the posting of danger signs or any other equally effective means, of the existence and location of and the danger posed by the permit spaces.
- If the job supervisor decides that his/her employees will not enter permit spaces, the job supervisor shall take effective measures to prevent employees from entering the permit spaces, and shall ensure compliance with the OSHA Permit-Required Confined Spaces Standard, including evaluations, posting of signs, and notifying subcontractors of any permit spaces.
- If the job supervisor decides that his/her employees will enter permit spaces, US BT must have developed and implemented a written permit space entry program that complies with the OSHA Permit-Required Confined Spaces Standard. The written program must be available for inspection by employees and their authorized representatives.
- If a hazardous atmosphere is detected during entry:
  - Each employee shall leave the space immediately.
  - The space shall be evaluated to determine how the hazardous atmosphere developed.

- Measures shall be implemented to protect employees from the hazardous atmosphere before any subsequent entry takes place.
- The entry supervisor shall verify that the space is safe for entry through a written certification that contains the date, the location of the space, and the signature of the person providing the certification. The certification shall be made before entry and shall be made available to each employee entering the space.
- When there are changes in the use or configuration of a non-permit confined space that might increase the hazards to entrants, the entry supervisor shall re-evaluate that space, and if necessary, reclassify it as a permit-required confined space.
- A space classified by the entry supervisor as a permit-required confined space may be reclassified as a non-permit confined space under the following procedures:
  - If the permit space poses actual or potential atmospheric hazards and if all hazards within the space are eliminated without entry into the space, the permit space may be reclassified as a non-permit confined space for as long as the non-atmospheric hazards remain eliminated.
  - If it is necessary to enter the permit space to eliminate hazards, such entry shall be performed by testing and inspection. If testing and inspection during that entry demonstrate that the hazards within the permit space have been eliminated, the

permit space may be reclassified as a non-permit confined space for as long as the hazards remain eliminated.

- When US BT arranges to have employees of another employer (US BT controlled subcontractor) perform work that involves permit space entry, the entry supervisor will:
  - Inform the US BT controlled subcontractor that the workplace contains permit spaces and that permit space entry is allowed only through compliance with a permit space program meeting the requirements of this section.
  - Apprise the US BT controlled subcontractor of the elements, including the hazards identified and the host supervisor's experience with the space, that make the space in question a permit space.
  - Apprise the US BT controlled subcontractor of any precautions or procedures that US BT has implemented for the protection of employees in or near permit spaces where contractor personnel will be working.
  - Coordinate entry operations with the US BT controlled subcontractor when both US BT personnel and contractor personnel will be working in or near permit spaces.
  - Debrief the US BT controlled subcontractor at the conclusion of the entry operations regarding the permit space program followed, and regarding any hazards confronted or created in permit spaces during entry operations.

