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## **Permit Required Confined Space**

### **General Overview-Compliance Options**

The following information is provided as a guideline only. Please refer to OSHA Standard 29CFR1910.146 for more detailed information. See Appendix C of this document for definition of Permit-Required -Required Confined Space.

If your company has a permit required confined space, you must decide how you are going to meet the Occupational Safety and Health Administration (OSHA) requirements. You have 5 *options*.

**Option #1** - Employees will not enter permit required confined spaces.

**Option #2** - Employees will enter permit required confined spaces and alternate procedures will be used. (This option can only be used if the only hazard that the permit required confined space poses is atmospheric. No physical hazards can be present).

**Option #3** - Reclassify a permit required confined spaces to a non-permit confined space.

**Option #4** - Hire outside contractors to enter your permit required confined spaces. Your employees will not enter the permit required confined space.

**Option #5** - Enter permit required confined spaces.

**Option #1** - The employer decides that employees will not enter permit required confined spaces.

- Post a warning sign that reads "DANGER -PERMIT REQUIRED CONFINED SPACE, DO NOT ENTER"
- Take effective measures to prevent employees from entering permit-required confined spaces. These measures could include training, permanently closing the space and using barriers. Training should include information on the existence, location and danger that permit required confined spaces pose.

**Option #2** - The employer decides that employees will enter permit-required confined spaces and alternate procedures will be used. (This option can only be used if the only hazard that the permit required confined space poses is atmospheric. **No physical hazards can be present**).

- Post a warning sign that reads "DANGER - PERMIT REQUIRED CONFINED SPACE, DO NOT ENTER"
- Prior to removing the entrant cover to a permit required confined space the employer must remove any condition that makes it unsafe to remove that cover (examples are high pressure, high temperatures, hazardous atmospheres).
- Once the entrant cover is removed the opening must be guarded to prevent an accidental fall and to prevent objects from falling into the space.
- *Before* an employee enters the permit-required confined space the internal atmosphere must be tested with a calibrated direct reading instrument for oxygen content, flammable gases and vapors, and potential toxic contaminants. *Note: This will require the purchase and maintenance or rental of this instrument.*
- *Periodically* the internal atmosphere must be tested with a calibrated direct reading instrument for oxygen content, flammable gases and vapors, and potential toxic contaminants. *Note: This will require the purchase and maintenance or rental of this instrument.*
- Provide continuous forced air ventilation to the permit required confined space.
- Prior to entry into a permit-required confined space the employer must verify that the space is safe for entry and that the air monitoring requirements have been met by the use of a written certification that contain the date, the location of the space, and the signature of the person providing the certification. The certification shall be made available to each person entering the space.
- The employer must maintain records of the monitoring data.
- The employer must provide training to employees involved with permit-required confined space so that they acquire the understanding, knowledge, and skills necessary for the safe performance of their duties.
- The employer must certify that training has been completed through a certification that contains each employee's name, signature of the trainers and the date of the training.

**Option #3** - Reclassify a permit required confined space to a non-permit confined space.

- Post a warning sign that reads "DANGER - PERMIT REQUIRED CONFINED SPACE, DO NOT ENTER"
- Take effective measures to prevent employees from entering permit-required confined spaces. These measures could include training, permanently closing the space and using barriers. Training should include information on the existence, location and danger that permit required confined spaces pose.
- Reclassification can only occur if the confined space contains no actual or potential atmospheric hazards and if all other hazards within the space can be eliminated without entry into the space.

*Note: Control of atmospheric hazards through forced air ventilation does not constitute elimination of the hazard.*

*Note: If it is necessary to enter the permit required confined space to eliminate hazards the employer must implement the full permit space program - see option #5.*

- The employer shall document that all hazards have been eliminated through a certification that contains the date, the location of the space and the signature of the person making the determination.
- **If** hazards arise within a permit space that has been declassified to a non-permit space each employee in the space shall exit the space. The employer shall then reevaluate the space and determine whether it must be reclassified to a permit required confined space.
- OSHA expects that this provision applies primarily to spaces containing hazardous energy sources or engulfment hazards.

**Option #4** - Hire outside contractors to enter your permit required confined spaces. Your employees will not enter the permit required confined space.

*Note: Host employer is the employer hiring another employer's employees. The contractor is the employer being hired by the host employer.*

- Post a warning sign that reads "DANGER- PERMIT REQUIRED CONFINED SPACE, DO NOT ENTER"
- Take effective measures to prevent employees from entering permit-required confined spaces. These measures could include training, permanently closing the space and using barriers. Training should include information on the existence, location and danger that permit required confined spaces pose.
- The host employer must inform the contractor that permit required confined space entry must meet the requirements of the OSHA Permit-Required Confined Space Standard.
- The host employer must inform the contractor of the hazards identified by the host and the reason why the space is a permit required confined space.
- Inform the contractor of any precautions/procedures that the host employer's employees will take to protect themselves in or near permit spaces where contractor personnel will be working.
- Coordinate entry operations with the contractor when both host and contractor employees will be working near the permit required confined spaces so that employees of one employer do not endanger the employees of another employer.
- The contractor must obtain any available information regarding permit required confined space hazards and entry operations from the host employer.
- The contractor must inform the host employer of the permit required confined space program that the contractor will follow.
- The contractor must inform the host employer of any hazards confronted or created in the permit required confined space.

**Option #5** - Enter permit required confined spaces.

- Post a warning sign that reads "DANGER - PERMIT REQUIRED CONFINED SPACE, DO NOT ENTER"
- Develop and implement a "Written Permit Space Entry Program" (See Appendix A)
- Review the Written Permit Space Entry Program using the canceled permits within 1 year after each entry and revise the program as necessary
- Prepare an entry permit
  - Permit must be signed by the entry supervisor prior to authorize entry
  - Completed permit should be available to all authorized entrants (can be posted at the entry portal to the permit space)
  - The duration of permit may not exceed the duration of the time required to complete the assigned task identified on the permit
  - The entry supervisor shall terminate entry and cancel the permit when; The entry operations covered by the permit are complete or
  - A condition not allowed by the permit arises in or near the permit
- Entry Permit shall identify;
  - The permit space to be entered
  - Purpose of entry
  - Date and the authorized duration of the entry permit
  - Authorized entrants
  - Attendants
  - Entry Supervisor
  - Hazards of the space
  - Measures used to isolate and eliminate/control permit spaces
  - Acceptable entry condition
  - Air monitoring results(initial and periodic)including names or initials of testers and when the tests were performed
  - Rescue and emergency services and the means for summoning those services
  - Communication procedures for attendants and authorized entrants
  - Equipment to be provided (PPE, testing equipment, alarm systems, communication equipment, rescue equipment)
  - Any other needed information to ensure employee safety
- Train employees so that they acquire the understanding; knowledge and skills necessary for the safe performance of their work(See Appendix B)
- Employer shall ensure that all *authorized entrants*;
  - Know the hazards including mode, signs or symptoms and consequences of exposure
  - Properly use equipment
  - Communicate with the attendant as necessary
  - Alert the attendant whenever;
    - Entrant recognizes any warning sign or symptom
    - Entrant detects a prohibited condition.

- Exit from the permit space as quickly as possible whenever;
  - An order to evacuate is given by the attendant or entry supervisor
  - The entrant detects a prohibited situation
  - The entrant recognizes any warning sign or symptom of exposure
  - An evacuation alarm is activated
  
- Employer shall ensure that all *attendants*
  - Know the hazards including mode, signs or symptoms and consequences of exposure
  - Is aware of possible behavioral effects of hazard exposure in authorized entrants
  - Continuously maintains an accurate account of authorized entrants
  - Assure that the means used to identify authorized entrants accurately identifies who is in the permit space
  - Remains outside the permit space during entry operations until relieved by another attendant
  - Communicates with authorized entrant
  - Monitors activities inside and outside the space to determine if it is safe for entrants and orders the authorized entrants to evacuate immediately when a prohibited condition arises, the entrants behavior is effected, a situation outside the space could endanger the entrant
  - Summon rescue emergency services when needed
  - Take appropriate actions when unauthorized entrants approach or enter permit spaces (includes informing entry supervisor)
  - Perform non-entry rescue as specified by the employers rescue procedures
  - Performs no duties that may interfere with the attendants primary duty to monitor protect the authorized entrant.
  
- Employer shall ensure that all *entry supervisors*
  - Know the hazards including mode, signs or symptoms and consequences of exposure
  - Verifies that all required information is on the entry permit
  - Terminate entry and cancel the permit when;
    - The entry operations covered by the permit are complete or
    - A condition not allowed by the permit arises in or near the permit
  - Verifies that rescue services are available and that the means for summoning them are operable
  - Removes unauthorized individuals who enter or attempt to enter the permit space
  - Determines that entry operations remain consistent with the terms of the entry permit and that acceptable entry conditions are maintained.
  
- Rescue and emergency services must be developed (requirements are dependent on who will be performing these duties)

## APPENDIX A WRITTEN PERMIT SPACE ENTRY PROGRAM

**If the employer decides that its employees will enter permit spaces, the employer shall develop and implement a written permit space program. The written program will be available for inspection by employees and their authorized representatives.**

The employer shall do the following:

- Implement measures to prevent unauthorized entry
- Identify and evaluate hazards of the space before employees enter
- Develop and implement the means, procedures, and practices necessary for safe permit space entry operations including but not limited to specify acceptable entry conditions, isolating the permit space, purging inerting flushing or ventilating the permit space as necessary to eliminate or control atmospheric hazards, providing pedestrians vehicle or other barriers to protect entrants from external hazards, verifying that conditions in the permit space are acceptable for entry throughout the duration of an authorized entry)
- Provide the following equipment as needed, at no cost to employees, maintain the equipment properly, and ensure that employees use the equipment properly;
  - Testing and monitoring equipment
  - Ventilation equipment
  - Communication equipment Personal protective equipment Lighting equipment' Barriers and shields
  - Equipment such as ladders for safe ingress and egress
  - Rescue and emergency equipment
  - Any other equipment necessary for safe entry into and rescue from permit spaces
- Monitor space prior to entry
- Test or monitor the permit space as necessary to determine if acceptable entry conditions are being maintained during the course of entry operations
- Provide at least one attendant outside of the permit space for the duration of entry operations
- Designate the following and specify the duties of;
  - authorized entrants (person authorized by the employer to enter a permit space)
  - attendants (person who remains outside the permit space to monitor the authorized entrant)
  - entry supervisor (person responsible for determining if acceptable entry conditions are present at a permit space where entry is planned, for authorizing entry and overseeing entry operations, and for terminating entry when necessary)
  - persons who test or monitor the atmosphere
- Develop and implement procedures for summoning rescue and emergency services, for rescuing entrants, providing necessary emergency services to rescued employees and for preventing unauthorized personnel from attempting a rescue

- Develop and implement a system for preparation, issuance, use and cancellation of entry permits.
- Develop and implement procedures to coordinate entry operations when employees of more than one employer are working simultaneously as authorized entrants in a permit space so that the employees of one employers do not endanger the employees of any other employer
- Develop and implement procedures necessary for concluding the entry after entry operations have been completed (ie; closing off permit space and canceling the permit)
- Review entry operations when the employer has reason to believe that the measures taken under the permit space program may not protect employees and revise the program to correct deficiencies found to exist before subsequent entries are authorized (ie; an unauthorized entry, the detection of a permit space hazard not covered by the permit, the detection of a condition prohibited by the permit, the occurrence of an injury or near miss during entry, change in the use or configuration of a permit space, employee complaints about the effectiveness of the program

## **APPENDIX B TRAINING**

- The training shall establish employee proficiency (testing, demonstration, practice)
- Develop a training certification that has the employee's name, the signature or initials of the trainers and the dates of training.
- Training must be provided before the employee is assigned duties related to permit spaces
- Training must be provided if there is a change in an employees assigned duties to a permit space
- Whenever there is a change in permit space operations that presents a hazard about which an employee has not been previously trained

## APPENDIXC DEFINITION OF PERMIT REQUIRED-CONFINED SPACE

A **confined space** means a space that;

1. Is large enough and so configured that an employee can bodily enter and performed assigned work; and
2. Has limited or restricted means for entry and exit (for example, tanks, vessels, silos, storage bins, hoppers, vaults and pits); and
3. Is not designed for continuous employee occupancy.

A **permit required confined space** means a confined space that has one or more of the following characteristics;

1. Contains or has potential to contain a hazardous atmosphere;
2. Contains a material that has the potential for engulfing an entrant;
3. Has an internal configuration such that an entrant could be trapped or asphyxiated by inwardly converging walls or by a floor which slopes downward and tapers to a smaller cross-section; or
4. Contains any other recognized serious safety or health hazard.