



*Brooks Construction Co., Inc*

## **CONFINED SPACE POLICY**

### **INTRODUCTION**

The purpose of this program is to inform workers of practices and procedures used by the company to protect workers from the hazards of entry into confined spaces. For our operations, the most common confined spaces are entry into tanks, bins, or silos; however, there are a number of other situations that could present confined space hazards. For example; an open trench more than four feet deep, a poorly ventilated construction trailer, tunnels under stockpiles or aggregate bins, and even manholes.

### **LEGAL REQUIREMENT**

The OSHA standard on Permit-Required Confined Spaces (1910.146) requires employers to implement practices and procedures to protect employees from hazards associated with entry and work within permit required confined spaces.

### **CONFINED SPACE GENERAL DEFINITIONS**

1. **Acceptable Entry Conditions:** The conditions that must exist in a permit space to allow entry and to ensure that the employees involved with a permit-required confined space entry can safely enter into and work within the space.
2. **Attendant:** An individual stationed outside one or more permit spaces who monitors the authorized entrants and who performs all attendant's duties assigned in confined space program.
3. **Authorized Entrant:** An employee who is authorized by the employer to enter a permit space.
4. **Confined Space is a space that:**
  - a. Is large enough and so configured that an employee can bodily enter and perform assigned work.
  - b. Has limited or restricted means of entry or exit (for example, tanks, vessels, silos, storage bins, hoppers, and pits are spaces that may have limited means of entry).
  - c. Is not designed for continuous employee occupancy.
5. **Emergency:** Any occurrence (including any failure of hazard control or monitoring equipment) or event(s) internal or external to the confined space which could endanger entrants.
6. **Engulfment:** The surrounding and effective capture of a person by a liquid or finely divided solid (flowable) substance that can be aspirated to cause death by filling or plugging the respiratory system or that can exert enough force on the body to cause death by strangulation, constriction, or crushing.



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7. **Entry:** The act by which a person intentionally passes through an opening into a permit required confined space, and subsequent work activities in that space. The entrant is considered to have entered as soon as any part of the entrant's body breaks the plane of an opening into the space.
8. **Entry Permit:** The written or printed document to allow and control entry into a permit space (available in Confined Space manual for from the Safety Director).
9. **Entry Supervisor:** The person (such as the foreman, plant manager or plant operator) 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.
  - a. Note: An entry supervisor also may serve as an attendant or as an authorized entrant, as long as that person is trained and equipped as required by this program for each role he or she fills. Also, the duties of entry supervisor may be passed from one individual to another during the course of an entry operation.
10. **Hazardous Atmosphere:** An atmosphere that may expose employees to the risk of death, incapacitation, impairment of ability to self-rescue (that is escape unaided from a permit space), injury, or acute illness from on of more of the following causes:
  - a. Flammable gas, vapor, or mist in excess of 10 percent of its lower flammable limit (LFL).
  - b. Airborne combustible dust at a concentration that meets or exceeds its LFL.
    - i. Note: This concentration may be approximated as a condition in which the dust obscures vision at a distance of 5 feet (1.52 m) or less.
  - c. Atmospheric oxygen concentration below 19.5 percent or above 23.5 percent.
  - d. Atmospheric concentration of any substance for which a dose exceeds the OSHA PEL.
    - i. Note: An atmospheric concentration of any substance that is not capable of causing death, incapacitation, and impairment of ability to self rescue, injury or acute illness due to its health effects is not covered by this provision.
  - e. Any other atmospheric condition that is immediately dangerous to life or health.
    - i. Note: For air contaminants for which OSHA has not determined a dose or permissible exposure limit, other sources of information, such as Material Safety Data Sheets, published information, and internal documents can provide guidance in establishing acceptable atmospheric conditions.
11. **Immediately Dangerous to Life or Health (IDLH):** Any condition which poses an immediate threat of loss of life; may result in irreversible or immediate-severe health effects; may result in eye damage; irritation or other conditions which could impair escape from the permit space.



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12. **Isolation:** The process by which a permit space is removed from service and completely protected against the release of energy and material into the space by such means as: Lockout/Tag-out of all sources of energy or mechanical linkages.
13. **Non-Permitted Confined Space:** A confined space that does not contain or, with respect to atmospheric hazards, have the potential to contain any hazard capable of causing death or serious physical harm.
14. **Oxygen Deficient Atmosphere:** A dangerous atmosphere containing less than 19.5 percent oxygen by volume.
15. **Oxygen Enriched Atmosphere:** A dangerous atmosphere containing more than 23 percent oxygen by volume.
16. **Permit Required Confined Space (Permit Space):** A confined space that has one or more of the following characteristics:
  - a. Contains or has a potential to contain a hazardous atmosphere.
  - b. Contains a material that has the potential for engulfing an entrant.
  - c. 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.
  - d. Contains any other recognized serious safety or health hazard.
17. **Prohibited Condition:** Any condition in a permit space that is not allowed by the permit during the period when entry is authorized.
18. **Rescue Service:** The personnel (i.e. in this case, the fire department) are designated to rescue employees from permit spaces, unless workers can be rescued without entry into the space by mean of a retrieval system.
19. **Retrieval System:** The equipment (including a retrieval line, chest or full body harness, wristlets, and lifting device or anchor) used for non-entry rescue of persons from permit spaces.

## **CONFINED SPACE PROGRAM RESPONSIBILITIES**

### **1. Safety Personnel**

- a. Aid in the training program for all personnel who enter confined spaces.
- b. Approve all monitoring equipment, safety equipment training programs and materials for safe work operations.
- c. Aid entry supervisors in inspecting Permit Confined Space locations for determination of hazards.
- d. Provide periodic calibration of confined space entry monitoring equipment.
- e. Inspect completed permits annually.

### **2. Supervisors**

- a. Be able to identify a confined space and contact Safety personnel when the space is new, or workers are not trained in entry.
- b. Assure affected employees receive training appropriate for their confined space duties.



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- c. Ensure that all entry permits are completed and signed upon termination of entry and that a copy is submitted to the Safety department.
- 3. Employee**
- a. Be able to identify any new confined spaces, and contact the appropriate supervisor before entry. An employee who is authorized by the employer to enter a permit space.

## **GENERAL REQUIREMENTS**

1. **Hazard Identification.** Each permit space shall be identified and evaluated, including a determination of the severity of the hazard. Supervisors shall report potential permit spaces to the Safety department.
2. **Permit System.** A written permit system shall be utilized for entry into permit spaces. Permit should be obtained from the Confined Space manual or the Safety Director, and any questions regarding permits should be directed to the Safety Director.
3. **Employee Information.** For company-owned sites, signs shall be posted where feasible near permit spaces to notify employees of the hazards that may be present and that only authorized entrants may enter the permit space. Where signage is not feasible, potentially exposed employees shall be trained with regard to the danger of unauthorized entry of permit spaces. Plant Superintendent shall be responsible for insuring proper signage of permit spaces.
4. **Prevention of Unauthorized Entry.** Unauthorized entry into permit spaces shall be prevented. Prevention measures include training, signs and security measures. All employees in or around confined spaces shall attend confined space awareness training.
5. **Employee Training.** Only trained attendants, authorized entrants and personnel authorizing or in charge of entry, shall work in and around a permit space.
6. **Equipment.** Including: testing, monitoring, communication and personal protective equipment, shall be provided, maintained, and properly used. Safety personnel will aid in specifying safety equipment for each permit space.
7. **Rescue.** Rescue procedures (see emergency action plan) and equipment shall be in place prior to entry into a permit space. The use of retrieval equipment shall be required where there exists a potential for an IDLH atmosphere or engulfment. There must be adequate attachment points outside the confined space for tying-off or otherwise securing retrieval lines for all authorized entrants. Where retrieval lines themselves could constitute an entanglement hazard or otherwise cannot be used, an equivalent method for rescue shall be used. Workers will not be trained in rescue of workers for which the rescuers must enter the confined space. Trained professionals (i.e. fire department) will be relied on for these emergency services.
8. **Protection form External Hazards.** Barriers necessary to protect entrants from external hazards (pedestrian, vehicle, etc.) shall be in place prior to entry into a permit space.



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## **CONFINED SPACE TRAINING**

Confined space training shall be provided for employees required, in the course of completing their job duties, to enter any location defined as a permit entry required confined space. Training shall also be provided to all attendants and entry supervisors. Employees performing the following tasks will be responsible for the following. In the event these employees do not understand the training regarding these responsibilities, or have further questions regarding a confined space, the worker shall contact the Safety Director.

### **Entry Supervisors**

1. Know the hazards that may be faced during entry, including the mode, signs or symptoms, and consequences of the exposure (i.e. refer to SDS).
2. Verify, by checking that the appropriate entries have been made on the permit, that all tests specified by the permit have been conducted and that all procedures and equipment specified by the permit are in place before approving the permit and allowing entry to begin.
3. Terminate the entry and cancel the permit as required when:
  - a. The entry operation covered by the entry permit has been completed.
  - b. A condition that is not allowed under the entry permit arises in or near the permit space.
4. Remove unauthorized individuals who enter or who attempt to enter the permit space during entry operations.
5. Determine, whenever responsibility for a permit space entry operation is transferred and at intervals dictated by the hazards and operations performed within the space that entry operations remain consistent with terms of the entry permit and that acceptable entry conditions are maintained.

### **Attendant**

1. Know the hazards that may be faced during entry, including the mode, signs or symptoms, and consequences of the exposure (i.e. refer to SDS).
2. Be aware of possible behavioral effects of hazardous exposure in authorized entrants.
3. Maintain a continuous accurate count of authorized entrants in the permit space and ensure that the means used to identify authorized entrants accurately identifies who is in the permit space.
4. Remain outside the permit space during entry operations until relieved by another authorized attendant.
5. Communicate with authorized entrants as necessary to monitor entrant status and to alert entrants of the need to evacuate the space.
6. Monitor activities inside and outside the space to determine if it is safe for entrants to remain in the space and order the authorized entrants to evacuate the permit space immediately under any of the following conditions:



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- a. If the attendant detects a prohibited condition.
  - b. If the attendant detects the behavioral effects of hazards exposure in an authorized entrant.
  - c. If the attendant detects a situation outside the space that could endanger the authorized entrants.
  - d. If the attendant cannot effectively and safely perform all the duties required under this section.
7. Summon emergency services as soon as the attendant determines that authorized entrants may need assistance to escape from permit space hazards.
  8. Take the following actions when unauthorized persons approach or enter a permit space while entry is underway:
    - a. Warn unauthorized persons that they must stay away from the permit space.
    - b. Advise the unauthorized persons that they must exit immediately if they have entered the permit space.
    - c. Inform the authorized entrants and entry supervisor if unauthorized persons have entered the permit space.
  9. Perform non-entry rescue as specified by the rescue procedure.
  10. Perform no duties that might interfere with the attendant's primary duty to monitor and protect the authorized entrants.

### **Rescue and Emergency Services:**

The following information shall be provided to the emergency rescue service (i.e. fire department) for each confined space rescue:

1. Inform the rescue service of the hazards they may confront when called on to perform rescue at jobsites or company facilities.
2. Provide the rescue service with access to all permit spaces from which rescue may be necessary so that the rescue service can develop appropriate rescue plans.
3. If an injured entrant is exposed to a substance, that SDS or written information shall be made available to the medical facility treating the exposed entrant if requested.

To facilitate non-entry rescue, retrieval systems or methods shall be used whenever an authorized entrant enters a permit space, unless the retrieval equipment increases the overall risk of entry or does not contribute to the rescue of the entrant. Retrieval systems shall meet the following requirements:

1. Each authorized entrant shall use a chest or full body harness, with a retrieval line attached at the center of the entrant's back near shoulder level, or above the entrant's head.
2. The other end of the retrieval line shall be attached to a mechanical device or fixed point outside the permit space in such a manner that rescue can begin as soon as the non-entry rescuer becomes aware that rescue is necessary.