

Confined Spaces for Construction Sample Written Program



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Occupational Safety and Health Consultation Program

Confined Spaces for Construction

Sample Written Program

29 CFR 1926 Subpart AA



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This sample written program is a guide to help employers and employees comply with the requirements of the Occupational Safety and Health Administration's (OSHA) Confined Spaces for Construction Standard, 29 Code of Federal Regulations (CFR) 1926 Subpart AA. It contains the basic elements of a confined spaces program for construction and is not meant to supersede the standard's requirements. Employers should review the standard for each specific worksite and customize the program accordingly.

This fillable publication is designed to allow your organization to customize the program and replace the blank boxes with your company's name and the responsible individual(s) you assign to meet the OSHA standards for confined spaces in construction.

This sample written program is provided as a public service by the Texas Occupational Safety and Health Consultation Program (OSHCON).

Important Note: The Confined Spaces for Construction Standard went into effect in August 2015. **Specialized construction tasks not included in Subpart AA are:**

- excavation (regulated by § 1926 Subpart P);
- underground, caissons, cofferdams, and compressed air (regulated by § 1926 Subpart S); and
- diving (regulated by § 1926 Subpart Y).

At worksites where both general industry and construction confined spaces OSHA regulations apply, employers must follow the construction industry regulations.



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29 CFR 1926 Subpart AA

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Confined Spaces for Construction Program for

OBJECTIVE & DEFINITIONS

The **purpose** of the _____ Construction Confined Spaces Program is to protect employees who work in confined spaces and permit-required confined spaces while doing routine tasks associated with their employment. This procedure is designed to meet the minimum safety requirements of the Occupational Safety and Health Administration's (OSHA) Confined Space Standard for Construction, 1926 Subpart AA.

Many workplaces contain spaces that are considered "**confined**" because the area creates difficulties for employees who must enter, work in, or exit from these spaces. In many instances, employees who work in confined spaces also face an increased risk of exposure to serious physical injury or death from dangers such as entrapment, engulfment, and hazardous atmospheric conditions. Confinement itself may pose entrapment hazards. Work in confined spaces may also keep employees closer to hazards such as machinery components than they would be otherwise. For example, confinement, limited access, and restricted airflow can result in hazardous conditions that would not normally arise in an open workplace.

The difference between confined spaces and permit spaces is crucial to understanding what the standard requires. Briefly, a permit space is a confined space containing one or more hazards. Employers must evaluate all confined spaces to determine whether a permit is required, but must take steps according to OSHA standards to protect workers only if a space is classified as a permit space.

Confined Space

By definition, a **confined space** is:

- large enough and so arranged that an employee can bodily enter it;
- limited or restricted in its means of entry or exit; and
- lacks the design to allow continuous employee occupancy.

A space has a **limited or restricted means of exit** if a person can not easily escape from the space in an emergency. Any of the following factors indicate that work space has a limited or restricted means of exit:

- the need to use a ladder or movable stairs, or stairs that are narrow or twisted;
- a door that is difficult to open or a doorway that is too small to exit while walking upright;
- obstructions such as pipes, conduits, ducts, or materials that a worker needs to crawl over or under, or squeeze around; or
- the need to travel a long distance to a point of safety.

A space **lacks the design to allow continuous employee occupancy** if it is not designed with features such as ventilation, lighting, and sufficient room to work and move about that are needed if people are to occupy it continuously.



Confined spaces that may be found on construction sites include, but are not limited to:

- | | | |
|---|---|------------------------|
| √ manholes (such as sewer, storm drains and electrical, communication, or other utilities); | √ bins; | √ digesters; |
| √ sewers; | √ boilers; | √ cesspools; |
| √ storm drains; | √ incinerators; | √ silos; |
| √ water mains; | √ scrubbers; | √ air receivers; |
| √ lift stations; | √ concrete pier columns; | √ sludge gates; |
| √ heating, ventilation, and air conditioning (HVAC) ducts; | √ transformer vaults; | √ air preheaters; |
| √ tanks (for fuel, chemicals, water, or other liquids, solids, or gases); | √ precast concrete; | √ transformers; |
| √ pits (such as elevators, escalators, pumps, valves, or other equipment); | √ pre-formed manhole units; | √ turbines; |
| | √ basements (before steps are installed); | √ chillers; |
| | √ drilled shafts; | √ bag houses; |
| | √ enclosed beams; | √ mixers and reactors; |
| | √ vessels; | √ crawl spaces; and |
| | | √ attics. |

Permit Space

By definition, a **permit-required confined space (permit space)** is a confined space that:

- contains or has the potential to contain a hazardous atmosphere;
- contains material with the potential to engulf someone who enters the space;
- has an internal configuration that might cause an entrant to be trapped or asphyxiated by inwardly converging walls or by a floor that slopes downward and tapers to a smaller cross-section; or
- contains any other recognized serious safety or health risk.

For more information on categories of permit spaces and the different levels of protection employees must take to keep employees safe, see **Appendix A**. For help in determining whether a space is a permit required space, see the Decision Flow Chart in **Appendix E**.

Several additional key definitions were introduced when the construction confined spaces standard went into effect in August 2015. These definitions play an important role in confined space identification, warning signage, and hazard communication. Other terms were introduced to address how the entry employer's personnel are to receive and transfer information about hazards and who evaluates which employees can work in confined spaces. Some of the most important new definitions are:

Controlling Contractor

The **controlling contractor** is the employer who has overall responsibility for construction at the worksite. If the controlling contractor owns or manages the property, then this individual is both a controlling employer and a host employer.

Host Employer

A **host employer** is the employer who owns or manages the property where the construction work is taking place. In no case will there be more than one host employer. If the owner of the property where the construction activity occurs is currently contracted with a general property manager, OSHA will treat the current contracted property manager as the host employer as long as the owner has transferred the following information to the property manager:

- the location of each known permit space;
- the hazards or potential hazards in each space or the reason it is a permit space; and
- any precautions that the host employer, any previous controlling contractor, or entry employer carried out to protect employees in the permit space.

Entry Employer

The **entry employer** is any employer who decides that an employee will enter a permit space. If an employer refuses to decide if an employee will enter a permit space, OSHA will consider the failure to decide as a decision to allow employees to enter.

Competent Person

The **competent person** on a confined spaces worksite is the individual capable of identifying existing and predictable hazards in the working or surrounding conditions which are unsanitary or dangerous to employees, and who has the authority to take prompt corrective measures to eliminate these hazards.

Qualified Person

A **qualified person** on a confined spaces worksite is one who, by possession of a recognized degree, certificate, or professional standing, or who by extensive knowledge, training, and experience, has successfully demonstrated his ability to solve or resolve problems relating to the subject matter, the work, or the project.



Entry Supervisor

The **entry supervisor** is the **qualified person** (such as the employer, foreman, or crew chief) responsible for deciding if acceptable entry conditions are present at a permit space where entry is planned, for authorizing entry and overseeing entry operations, and for stopping entry as required by this standard. 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 standard for each role he or she fills. Also the **entry supervisor** may be passed from one individual to another during the course of an entry operation.

Attendant

The **attendant** is an individual stationed outside one or more permit spaces who monitors the authorized entrants and who performs all attendants' duties assigned in the employer's permit space program.

Authorized Entrant

The **authorized entrant** is an employee who is authorized by the employer to enter a space.

Acceptable Entry Conditions

By definition, **acceptable entry conditions** means the conditions that must exist in a permit space to allow entry and to ensure employees involved with a permit-required confined space entry can safely enter into and work within the space.

Early-Warning System

By definition, an **early-warning system** is the method used to alert authorized entrants and attendants that an engulfment hazard may be developing. Types of early warning systems may include, but are not limited to:

- alarms activated by remote sensors, such as bells, horns, sirens, or flashing lights;
- workplace announcement systems; and
- lookouts with equipment for immediately communicating with authorized entrants and attendants.

Prohibited Condition

A **prohibited condition** is any condition in a permit space that is not allowed by the permit during the period when entry is authorized. A hazardous atmosphere is a prohibited condition unless the employer can demonstrate that personal protective equipment (PPE) will provide effective protection for each employee in the permit space and provide the appropriate PPE to each employee.

Appendix D provides a complete list of confined spaces definitions for the construction industry.



ASSIGNMENT OF RESPONSIBILITY

Duties of Employers under the Construction Confined Spaces Standard	
Category of Employer	Employer Responsibilities
All Employers	<ul style="list-style-type: none">● Identify all confined spaces in which employees may work and decide whether any are permit spaces. If workers are supposed to enter the permit space(s), the employer is an “entry employer.”● Employers who are not “entry employers” must make sure workers stay out of any permit spaces on the site, unless the workers are authorized to enter.
Entry Employers	<ul style="list-style-type: none">● Protect workers against permit space hazards by complying with the standard.● Inform the controlling contractor of the program followed and hazards encountered in permit spaces.
Controlling Contractors	<ul style="list-style-type: none">● Share information about permit space dangers with entry employers and other employers whose activities may create hazards in the permit space.● Coordinate entry operations when there is more than one entry employer.● Coordinate operations when permit space entry occurs during other activities at the site that might create a hazard in the space.
Host Employers	<ul style="list-style-type: none">● Share information about permit space hazards with the controlling contractor.

All Employers

In administering the Construction Confined Spaces Program, _____

will:

- identify any confined spaces in which employees will work;
- ensure a “competent person” determines whether spaces are permit spaces;
- inform workers of the existence, location, and danger posed by each permit space by posting warning signs or other equally effective means;
- inform employees’ authorized representatives and the controlling contractor of the existence, location, and danger posed by each permit space in a timely manner other than posting;
- ensure employees stay out of permit spaces when not authorized to work at the location;
- develop a written permit-required confined space program that complies with construction confined space standards if employees will enter a permit space;



- make a written Construction Confined Space Program available to employees and their authorized representatives prior to and during entry if employees will enter a permit space, unless the employer can determine:
 - **physical hazards in the space are eliminated or isolated through engineering controls so that the only hazard posed by the permit space is an actual or potential hazardous atmosphere;**
 - **continuous forced air ventilation alone is enough to keep the permit space safe for entry and, in the event the ventilation system stops working, entrants can exit the space safely;**
 - **monitoring and inspection data support the claims above; and**
 - **monitoring and inspection data is made available to each employee who enters the permit space;**
- eliminate, in advance, any condition making it unsafe to remove an entrance cover;
- place a railing, temporary cover, or other temporary barrier immediately when an entrance cover is removed to prevent falls and to protect employees from foreign objects entering the space;
- test the internal atmosphere with a calibrated direct-reading instrument for oxygen content, flammable gases and vapor, and toxic air contaminants, in that order, before an employee enters the space;
- provide an opportunity for the employee or the employee's authorized representative to observe pre-entry testing;
- monitor the atmosphere within the space constantly unless the entry employer can show that continuous monitoring equipment is not commercially available or periodic monitoring is sufficient;
- ensure that the monitoring equipment has an alarm that will notify all entrants if an atmospheric threshold is met or an employee frequently checks the monitor, and is capable of warning employees to ensure entrants have time to escape;
- provide forced air ventilation continuously to prevent the build-up of a hazardous atmosphere;
- ensure that if a hazard is detected during entry, each employee leaves the space immediately and the space is evaluated to determine how the hazard developed, and what measures must be carried out to protect employees before another entry takes place;
- ensure there is a safe method of entering and exiting the space, such as using a commercially designed and manufactured hoisting system or a job-made hoisting system approved by a registered professional engineer in writing prior to use;
- verify the space is safe for entry, take pre-entry measurements, and certify it in writing, being sure to include the date, location of the space, and signature of the person providing the certification;
- ensure the written safety certification is made available to each employee entering the space or to the employee's authorized representative prior to entry;

- ensure that a permit-required space is only reclassified as a non-permit required space when:
 - a competent person determines that no atmospheric hazards exist;
 - all hazards in the space are eliminated or isolated;
 - the elimination or isolation of hazards are documented in a signed and dated certificate that is available to each employee entering the space or to that employee's authorized representative; and
 - employees are removed, the space is reevaluated, and the space is reclassified according to the standard if new hazards arise in the space;
- train each employee whose work is regulated by this standard, at no cost to the worker, and ensure the employee possesses the understanding, knowledge, and skills necessary to safely performance the duties assigned under this standard;
- maintain training records to show that the training required in §1926.1207 has been accomplished;
- ensure that training records are available for inspection by employees and their authorized representatives for the period of time the worker is employed by the employer;
- evaluate a prospective rescue and emergency service based on its ability to respond to a rescue in a timely manner based on the hazard(s) identified, their skill with rescue related tasks and equipment, and their ability to function appropriately while rescuing entrants from the types of permit spaces identified;
- select a rescue team or service that:
 - has the capability to reach the victim(s) within a time frame that is appropriate for the permit space hazard(s) identified;
 - is equipped for the permit space hazard(s) identified; and
 - agrees to notify the employer immediately in the event that the rescue service becomes unavailable;
- inform each rescue team or service of the hazards that may be confronted when called on to perform rescue at the site;
- provide the rescue team or service selected with access to all permit spaces from where rescues may be necessary so the rescue team or service can develop appropriate emergency plans and practice rescue operations;
- ensure that employees designated as rescue and emergency services personnel take the following measures and are provided the following at no cost:
 - personal protection equipment (PPE) and training on its use as needed to conduct permit space rescues safely;
 - training to successfully perform assigned rescue duties and to serve as authorized entrants;



- training and certification in basic first aid and cardiopulmonary resuscitation (CPR); and
- practice time and opportunities to make permit space rescues before attempting an actual rescue, and at least once every 12 months, by simulating rescue operations with the removal of dummies, manikins, or actual persons from the permit spaces or representative permit spaces;
- require non-entry rescues unless the retrieval equipment would increase the overall risk of entry or would not contribute to the rescue of the entrant.; designate an entry rescue service whenever non-entry rescue is not selected, and ensure that retrieval systems or methods are used whenever an authorized entrant enters a permit space;
- confirm prior to entry, that emergency assistance would be available in the event that non-entry rescue fails, and ensure retrieval systems meet the following requirements:
 - each authorized entrant uses a chest or full body harness, with a retrieval line attached at the center of the entrant's back near shoulder level, above the entrant's head, or at another point which the employer can establish presents a profile small enough for the successful removal of the entrants. (Note: Wristlets or anklets may be used in lieu of the chest or full body harness if the employer can demonstrate that the use of a chest or full body harness is infeasible or creates a greater hazard and that the use of wristlets or anklet is the safest and most effective alternative.);
 - the other end of the retrieval line must 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 rescuer becomes aware that rescue is necessary. (Note: The mechanical device must be available to retrieve personnel from vertical type permit spaces more than 5 feet (1.52 meters) deep.);
 - equipment that is unsuitable for retrieval must not be used, including, but not limited to, retrieval lines that may become entangled with other authorized entrants' retrieval lines, or retrieval lines that will not work due to the layout of the permit space.; ensure that if an injured entrant is exposed to a substance required to be kept on a Safety Data Sheet (SDS) or other similar written information at the worksite, that the SDS or written information is made available to the medical facility treating the exposed entrant;
- consult with affected employees and their authorized representatives on the development and implementation of all aspects of the permit space program;
- make available to each affected employee and authorized representative all information required for the development of this standard; and
- make each required document related to this standard available on request to the Secretary of Labor or the Secretary's designee.

Controlling Contractor(s)

_____ is responsible for the overall construction at the worksite. The controlling contractor(s) will:

- get all information from the host employer about permit space hazards and previous entry operations;
- provide all entry employees and all others at the worksite whose activities could possibly result in a hazard in the permit space, with the information received from the host employer;
- share any additional information the controlling contractor may have about the location, hazards, or previous protection measures put in place at the space with all entry employees and all others whose activities could result in a dangerous situation in the permit space;
- coordinate entry operations with the entry employer(s) when there is more than one entry employer and when other activities on the site could result in a hazard in the permit space;
- debrief each person who enters the space regarding the permit program and any hazards dealt with or created during the operations; and
- inform the host employer in a timely manner of the information discussed with individuals entering the permit space.

Host Employer

_____ owns or manages the property where the construction work is taking place and, as the host employer, will:

- provide the controlling contractor(s) with the location of each permit space, the hazard or potential hazard in each space, the reason it is a permit space, and all precautions the host employer, previous controlling contractor(s), or entry employer(s) implemented for the protection of employees in the permit space; and
- assume the responsibilities of the controlling contractor if there is not one performing the work that involves the permit space.

Entry Employer(s)

_____, will function as the entry employer. The entry employer will:

- decide if an employee will enter a permit space;
- protect workers against danger in the permit space by isolating physical hazards and purging, inerting, flushing, or ventilating the permit space as necessary to eliminate or control atmospheric hazards;



- comply with all provisions of the construction confined space standard except those specifically imposed on the controlling contractor and host employer;
- ensure that a competent person reevaluates a non-permit confined space and, if necessary, reclassifies it as a permit-required confined space if changes in the use or configuration of the space might increase the hazards to entrants, or if there is an indication that the initial evaluation of the space is inadequate;
- get all the controlling contractor's information about permit space hazards and entry operations before entry;
- inform the controlling contractor of the permit space program the entry employer will follow including any expected or created hazards in each space;
- coordinate entry operations with the controlling contractor when there is more than one entry employer and when other activities on the site could result in a hazard in the permit space;
- ensure that if the ventilation system stops working, monitoring systems are in place to detect an increase in atmospheric hazard levels in time to allow entrants to safely exit the permit space;
- provide barriers as necessary to protect entrants from external hazards;
- provide personal protection equipment (PPE) to each employee entering the permit space and demonstrate that the PPE will provide effective protection throughout the duration of the entry;
- eliminate any conditions, such as high pressure, that could make it unsafe to remove an entrance cover;
- provide, maintain, and ensure the proper use of equipment, at no cost to the employee, needed for the safe entry, exit, and rescue from a permit space, including testing, monitoring, shielding, ventilation, communications, lighting, and personal protection equipment;
- test atmospheric conditions in the permit space before authorized entry to determine if the space's natural ventilation is acceptable;
- conduct the following if the space is too large or part of a continuous system (such as a sewer), which cannot be isolated to test the space's natural ventilation:
 - perform pre-entry testing before authorizing entry;
 - monitor entry conditions continuously where entrants are working unless monitoring equipment is not commercially available or periodic monitoring is sufficient to ensure the atmospheric hazard is controlled at safe levels and entry conditions are acceptable during entry operations;
 - .provide an early warning system that continuously monitors for non-isolated engulfment hazards and alerts employees in sufficient time to safely exit the space;

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- ensure that when testing for atmospheric hazards, test oxygen, then combustible gases and vapors, and then toxic gases and vapors in that order;
 - provide authorized entrants or the employees' authorized representatives the opportunity to observe all testing and monitoring of permit space;
 - reevaluate the permit space in the presence of any entrant or the employee's authorized representative who requests it if there is an indication that the evaluation may not have been adequate; and
 - provide each entrant or the employee's authorized representative of the results immediately.
- post at least one attendant outside the permit space throughout the duration of the entry operations (however, attendant(s) may be assigned to more than one permit space or may be stationed at any location outside the permit space as long as the duties described in §1926.1209 can be performed);
 - include in the permit program the means and procedures an attendant(s) who is assigned to multiple spaces can respond to an emergency affecting one or more of the permit spaces without distracting the attendant's responsibilities at one or more other permit spaces;
 - designate each person who will have an active role in entry operations (for example, authorized entrants, attendants, entry supervisors, or personnel who test or monitor the atmosphere in a permit space), identify each employee's duties, and provide each employee with the training required by §1926.1207;
 - develop and implement procedures for contacting and providing emergency services to employees in failed non-entry accidents and those needing rescue from permit spaces;
 - prevent unauthorized personnel from attempting a rescue in emergency situations;
 - develop and carry out a system for preparing, issuing, using, and canceling permits as required by the standard, including safely ending entry operations under planned and emergency conditions;
 - develop and coordinate entry operations with the controlling contractor when employees working for more than one employer are in a permit space or on the worksite at the same time where the workers' activities could endanger the employees of another employer;
 - review and revise the permit space program if shortcomings are found which may not protect the employees, such as:
 - unauthorized entry;
 - detection of a hazard not covered by the permit
 - detection of a condition prohibited by the permit;
 - occurrence of an injury or near-miss during entry;
 - change in the use or configuration of a permit space; or
 - employee complaints about the effectiveness of the program;



- develop and carry out procedures, such as closing off a permit space and canceling the permit if necessary, after entry operations are completed;
- review and revise the permit space program, as needed, using the canceled permits kept under §1926.1205(f) within one year after each entry to ensure entry employees are protected from permit space hazards. (Note: Employers may perform a single annual review covering all entries performed during a 12-month period. If no entry is performed during a 12-month period, no review is necessary.);
- ensure all authorized entrants complete the duties in §1926.1208 and outlined in this written program under Authorized Entrants Assignment of Responsibilities below; and
- ensure all attendants complete the duties outlined in §1926.1209 and outlined in this written program under Attendants Assignment of Responsibilities on page 11.

Authorized Entrants

_____ are the employees permitted to enter confined spaces and will:

- understand the potential hazards faced during entry, including the mode, signs, symptoms, and consequences of exposure;
- use equipment properly as required by §1926.1204(d);
- communicate authorized entrant's status with the attendant so the attendant can alert entry employees if the need for evacuation occurs;
- alert the attendant if there is any warning sign or symptom of exposure to a dangerous situation, or if the entrant detects a prohibited condition; and
- exit from the permit space as quickly as possible whenever:
 - an order to evacuate is given by the attendant or the entry supervisor;
 - there is any warning sign or symptom of exposure to a dangerous situation;
 - the entrant detects a prohibited condition; or
 - an evacuation alarm is activated.

Attendants

_____ will function as an attendant(s) and will be stationed outside the confined workspace. The attendant(s) will:

- understand the potential hazards faced during entry, including information on the mode, signs, symptoms, and consequences of the exposure;
- recognize the possible behavioral effects of hazard exposure in authorized entrants;
- maintain an 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;

- remain outside the permit space during entry operations until relieved by another attendant. (Note: Once an attendant is relieved by another attendant, the relieved attendant may enter a permit space to attempt a rescue when the employer's permit space program allows, if the attendant has been trained and equipped for rescue operations.);
- communicate with authorized entrants as necessary to assess entrant status and to alert entrants of the need to evacuate the space;
- assess activities and conditions 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 if:
 - there is a prohibited condition;
 - the behavioral effects of hazard exposure are apparent in an authorized entrant;
 - a situation outside the space could endanger the authorized entrants; or
 - the attendant cannot effectively and safely perform all the duties required under this section;
- summon rescue and other emergency services as soon as the attendant determines that authorized entrants may need assistance to escape from permit space hazards;
- take the following actions when unauthorized person approach or enter a permit space while entry is underway:
 - warn the unauthorized person that they must stay away from the space;
 - advise the unauthorized person that they must exit immediately if they have entered the permit space; and
 - inform the authorized entrants and the entry supervisor if unauthorized people have entered the permit space;
- take the following actions when unauthorized people approach or enter a permit space while entry is underway:
 - warn the unauthorized people that they must stay away from the permit space;
 - advise the unauthorized people that they must exit immediately if they have entered the permit space; and
 - inform the authorized entrant(s) and the entry supervisor if unauthorized people have entered the permits space;
- perform non-entry rescues as specified by the employer's rescue procedure; and
- perform no duty that might interfere with the attendant's primary duty to assess and protect the authorized entrants.



Entry Supervisors

_____ will serve as entry supervisor(s) and are responsible for determining acceptable entry conditions. The entry supervisor(s) will:

- understand the hazards that may be faced during entry, including information on the mode, signs, symptoms, and consequences of the exposure;
- 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 endorsing the permit and allowing entry to begin;
- terminate the entry and cancel or suspend the permit if entry operations covered by the entry permit have been completed or if a condition that is not allowed under the entry permit arises in or near the permit space as outlined in §1926.1205;
- verify that rescue services are available, that the means for contacting the emergency members is operational, and that the employer will be notified if the services become unavailable;
- remove unauthorized individuals who enter or who attempt to enter the permit space during entry operations; and
- ensure that entry operations remain consistent with the entry permit and that acceptable entry conditions are maintained when the responsibility for a permit space entry operation is transferred.

Rescue Service Personnel

The rescue services members will:

- respond to an emergency promptly;
- complete authorized entrants training and instruction to perform assigned rescue duties;
- participate in training drills using mannequins or personnel in a simulation of the confined space before issuing an entry permit for any confined space;
- practice rescue operations in permit spaces yearly;
- respond immediately to rescue calls from the attendant or any other person recognizing a need for rescue from the confined space;
- receive the same training, in addition to emergency response training, as that required of authorized entrants;
- maintain current certification in first aid and CPR; and
- notify the employer immediately in the event that the rescue service becomes unavailable.

PERMITTING PROCESS

Entry Employer

- Before entry is authorized, each entry employer must prepare an entry permit to document that the means, procedures, and practices necessary for safe permit space entry operations, have been developed and implemented. The entry employer should:
 - specify acceptable entry conditions;
 - provide each authorized entrant or the employee's authorized representative with the opportunity to observe any monitoring or testing of permit spaces;
 - isolate the permit space and physical hazard(s) within the space;
 - purge, inert, flush, or ventilate the permit space as necessary to eliminate or control atmospheric hazards; (Note: When an employer is unable to reduce the atmosphere below 10 percent lower flammable limit (LFL), the employer may only enter if the employer inerts the space so as to render the entire atmosphere in the space non-combustible, and the employees use PPE to address any other atmospheric hazards, such as oxygen deficiency, and the employer eliminates or isolates all physical hazards in the space.);
 - determine that, in the event the ventilation system stops working, the monitoring procedures will detect an increase in atmospheric hazard levels in sufficient time for the entrants to safely exit the permit space;
 - provide pedestrian, vehicle, or other barriers as necessary to protect entrants from external hazards;
 - verify that conditions in the permit space are acceptable for entry throughout the duration of an authorized entry, and ensure that employers are not allowed to enter into, or remain in, a permit space with a hazardous atmosphere unless the employer can demonstrate that personal protective equipment (PPE) will provide effective protection for each employee in the permit space and provides the appropriate PPE to each employee; and
 - eliminate any conditions (for example, high pressure) that could make it unsafe to remove an entrance cover.



Entry Supervisor	<ul style="list-style-type: none">● Before entry is authorized, the entry supervisor identified on the permit must sign the entry permit to authorize entry.● The completed permit must be made available at the time of entry to all authorized entrants or their authorized representatives, by posting it at the entry portal or by any other equally effective means, so that the entrants can confirm the pre-entry preparations have been completed.● The duration of the permit may not exceed the time required to complete the assigned task or job identified as the purpose of the entry on the permit.● The entry supervisor must terminate entry and take the following action when any of the following apply:<ul style="list-style-type: none">■ cancel the entry permit when the entry operations covered by the entry permit have been completed;■ suspend or cancel the entry permit and fully reassess the space before allowing reentry when a condition that is not allowed under the entry permit arises in or near the permit space and that the condition is temporary in nature and does not change the configuration of the space or create any new hazards within it; and■ cancel the entry permit when a condition that is not allowed under the entry permit arises in or near the permit space and that condition is not covered by §1926.1205(3)(2).
Entry Employer	<ul style="list-style-type: none">● The entry employer must retain each canceled entry permit for at least one year to facilitate the review of the permit-required confined space program required by §1926.1204(n), which requires review of the program as necessary to ensure that employees participating in entry operations are protected from permit space hazards. Any problems encountered during an entry operation must be noted on the pertinent permit so that appropriate revisions to the permit space program can be made. (Note: Employers may perform a single annual review covering all entries performed during a 12-month period. If no entry is performed during a 12-month period, no review is necessary.)

ENTRY PERMIT

The entry permit documents compliance and authorizes entry to a permit space. It must identify:

- the permit space to be entered;
- the purpose of entry;
- the date and the authorized duration of the entry permit;
- the authorized entrants within the permit space, by name or by such other means (for example, through the use of rosters or tracking systems) that will enable the attendant to determine quickly and accurately, for the duration of the permit, which authorized entrants are inside the permit space. (Note: This requirement may be met by inserting a reference on the entry permit as to the means used, such as a roster or tracking system, to keep track of the authorized entrants within the permit space.);
- means of detecting an increase in atmospheric hazard levels in the event the ventilation system stops working;
- each person, by name, currently serving as an attendant;
- the individual, by name, currently serving as entry supervisor, and the signature of initials of each entry supervisor who authorizes entry;
- the hazards of the permit space to be entered;
- the measures used to isolate the permit space and to eliminate or control permit space hazards before entry. (Note: Those measures can include, but are not limited to the lockout or tagging of equipment and procedures for purging, inerting, ventilating, and flushing permit spaces.);
- the acceptable entry conditions;
- the results of testing and monitoring performed under §1926.1204(e) and outlined under entry employer's responsibilities on page 9 of this written program, accompanied by the names or initials of the testers and an indication of when the tests were performed;
- the rescue and emergency services that can be summoned and the means (such as the equipment to use and the number to call) for summoning those services;
- the communication procedures used by authorized entrants and attendants to maintain contact during the entry;
- equipment, such as personal protective equipment, testing equipment, communications equipment, alarm systems, and rescue equipment to be provided for compliance with this standard;
- any other information necessary, given the circumstances of the particular confined space, to ensure employee safety; and
- any additional permits, such as for hotwork, that have been issued to authorize work in the permit space.



TRAINING

The employer must provide training to each employee whose work is regulated by this standard, at no cost to the employee. It must ensure each affected employee receives:

- the understanding, knowledge, and skills necessary for the safe performance of the duties assigned under this standard, including:
 - the hazards in the permit space;
 - the methods used to isolate, control or in other ways protect employees from these hazards; and
 - the dangers of attempting such rescues;
- training that is:
 - in both a language and vocabulary the employee can understand;
 - before the employee is first assigned duties under the standard;
 - before there is a change in assigned duties;
 - whenever there is a change in permit space entry operations that presents a hazard about which an employee has not previously been trained; and
 - whenever there is any evidence of a deviation from the permit space entry procedures required by §1926.1204(c) and outlined under entry employer's responsibilities on page 9 of this written program, or there are inadequacies in the employee's knowledge or use of these procedures;
- training which establishes employee proficiency in the duties required by the standard and introduces new or revised procedures, as necessary, for compliance with this standard; and
- access to the training records required to be maintained by the employer for the period of time the employee works for that employer. (Note: This documentation must also be available to the employee's authorized representatives, and must contain each employee's name, the name of the trainers, and the dates of training.)

RESCUE AND EMERGENCY SERVICES

Effective emergency planning is vital to ensure that any entrant who becomes sick or is injured in a permit space can be evacuated quickly and safely. The entry employer's permit space program must therefore include procedures for entrants to be rescued in a timely manner by qualified personnel.

- **The role of the attendant** is to remain outside the space to maintain communication with all entrants and keep track of their condition whenever an entrant is in a permit space. If one or more entrants suffers an injury or illness and is unable to exit the space without help, the attendant initiates a rescue.
- **Non-entry rescue** is preferable if the entrant(s) can be rescued without others entering the space to avoid having additional personnel exposed to the hazard that caused the injury or illness. Therefore, the employer's rescue procedures must provide for non-entry rescue using retrieval equipment unless the retrieval equipment would increase the overall risk of entry or would not contribute to the rescue of the entrant, such as when obstructions can snag the retrieval line or the line can become entangled with air lines or electric cords. The attendant must be prepared to perform non-entry rescues when required by the employer's rescue procedures.

When the rescue procedures provide for non-entry rescue, each entrant must wear a chest or full body harness, with a retrieval line attached at the D-ring in the center of the back or another point which positions the entrant so that he or she is small enough to be pulled out of the space. The other end of the retrieval line must be attached to a mechanical device or a fixed point outside the permit space. A mechanical device must be available to retrieve someone from vertical type permit spaces more than five feet deep

Wristlets or anklets may be used instead of a chest or full body harness only if the employer can demonstrate that use of a chest or full body harness is infeasible or would create a greater hazard and that the use of wristlets or anklets is the safest and most effective alternative.

When non-entry rescue is selected, the entry employer must also confirm, before entry begins, that emergency assistance would be available if the non-entry rescue fails. Emergency assistance would usually be provided by a local fire department or similar service.

- **Entry rescue** is required when non-entry rescue might not be feasible. If not, the only way to rescue the entrant is for others to enter the permit space. For entry rescue, the employer may plan to use an on-site rescue team (consisting of its own or another contractor's employees) or an off-site team, such as a local fire department or other rescue service. In either case, the employer must make sure that the rescue service is able to respond in time to enable the injured worker to receive needed medical attention in light of the hazards present in the permit space by contacting the rescue service prior to entry and informing them of the nature of the space and the hazards involved. In some cases, this may require a standby rescue team, such as when the entrant is working in an atmosphere that is immediately dangerous to life or health and is wearing an airline respirator or a self-contained breathing apparatus.



Whenever entry rescue takes place, an attendant must be stationed outside the permit space so that additional help can be summoned if needed. If the original attendant is to enter the space as part of the rescue team, a new attendant must be in position before the first attendant enters the space.

- **Rescue and emergency services** are designated (whether entry or non-entry) by the employer and must ensure that the team members have received the training required for authorized entrants and have also been trained to perform their assigned rescue duties. That employer must provide the rescue team members with personal protective and rescue equipment, including respirators, and must train them on how to use it. All rescuers must be trained in first aid and CPR. At a minimum, one rescue team member must be currently certified in first aid and CPR. Employers must ensure that the team practices or performs rescue exercises at least yearly and that rescue services are provided access to permit spaces so they can practice rescue operations. Rescuers also must be informed of the hazards of the permit space before they enter the space. The rescue service must agree to notify the employer in the event the service becomes unavailable, and the employer must provide the service with access to the permit space so the service can develop an appropriate rescue plan and practice rescue as necessary.

If the entry employer designates an off-site rescue service, it must determine that the service has the ability and equipment to carry out a rescue in the particular permit space or type of permit space in which the entrant is working. It must contact the rescue service and make sure that it will be able to respond in a timely manner whenever an entrant is in the permit space

Appendices



APPENDIX A: CATEGORIES OF PERMIT SPACES & REQUIRED PROTECTION

If the workplace contains a permit space, the entry employer must protect its workers against the hazards in the permit space.

The protection that is required depends on the type and severity of the hazards present in the permit space. The following table lists the three categories of permit spaces for which different levels of protection are specified.

Characteristics of Space	Protective Action
Permit spaces that do not qualify for one of the following two exceptions.	<p>If the employer's workers will enter the space, develop and follow a written permit-required confined space program, or permit space program. The permit space program specifies, among other things, how the employer will regulate worker entry into permit spaces and control permit space hazards.</p> <p>All employers must inform their workers about the locations and dangers of each permit space (e.g., post signs), and take additional steps to ensure that workers do not enter permit spaces if they are not authorized to do so.</p>
Exception 1: Spaces that contain only physical (non-atmospheric) hazards.	If the physical hazards are eliminated or isolated so that they no longer present a hazard, the space may be reclassified as a non-permit space, with no further precautions required.
Exception 2: Spaces containing an atmospheric hazard that can be controlled by continuous forced air ventilation.	As long as the atmospheric hazard is controlled by continuous forced air ventilation and any physical hazards are eliminated or isolated, the alternative procedures listed in §1926.1203 may be used instead of full permit space procedures, although the space is still classified as a permit space.



APPENDIX B: OSHA RESOURCES

Download or order the following items from [osha.gov](https://www.osha.gov) or call 800-321-6742 (OSHA).

- **Confined Space Safety on Commercial Fishing Vessels Fact Sheet** (2011, English)
- **Confined Spaces** (2004, OSHA 3138, English)
- **Confined Spaces: Atmospheric Testing in Confined Spaces Fact Sheet** (2005, English)
- **Confined Spaces: Is 911 your Confined Space Rescue Plan? Fact Sheet** (2016, OSHA FS 3849)
- **Confined Spaces: Permit-Required Confined Spaces QuickCard™** (2011, OSHA 3214, English; 2011, OSHA 3214, Spanish)
- **Confined Spaces: Protecting Construction Workers in Confined Spaces – Small Entity Compliance Guide** (2015, OSHA 3825, English)

OSHA's 1910.146-Confined Space Pre-Entry Checklist and Sample Permits are available at <https://www.osha.gov/laws-regs/regulations/standardnumber/1910/1910.146AppD>



APPENDIX C: DWC RESOURCES

DWC features a free occupational safety and health DVD lending library. For more information, call 512-804-4620 or visit the Resource Center at www.tdi.texas.gov/wc/safety/videoresources/avcatalog.html.

DVDs on confined spaces include:

Basic Training about Confined Spaces and the Entry Permit System

DVD1750, DVD1750S, 20 min.

Makes viewers aware of confined space hazards and steps required to prevent these hazards from contributing to injuries and deaths. Features a modular format, with each 3-4 minute block of instruction followed by a review. Covers differences between permit and non-permit-required spaces, the written confined space entry program, types and characteristics of confined space hazards, and responsibilities of entry team members. 2002. ERI-Safety.

Confined Space Atmospheric Testing

DVD1932ES, 17 min.

Reviews how and when to test, what steps to take when air is unsafe, atmospheric hazards, procedures for proper pre-testing, and how to respond when air is unsafe. 2007, 1993. Coastal. Includes quiz.

Confined Space Entry: Investigation

DVD1933ES, 23 min.

Two confined-space accidents teach employees how to work safely in confined spaces and how to prevent serious accidents from occurring. Reveals what happened and what went wrong. Covers four areas to investigate, and surviving in a confined space. 2008, 2003. Coastal. Includes quiz.

Confined Space Entry: Permit Required!

DVD1291ES, 21 min.

Complies with OSHA 1910.146. Covers entry permit requirements, safe atmospheric testing, and training the entry team. 2006, 1993. Coastal. Includes employee handout/quiz.

Confined Space Entry Responsibilities

DVD1030, DVD1030S, 20 min.

Addresses the risks and operational safety standards for confined spaces commonly found in public works and construction. Includes testing, ventilation and rescue procedures. 2001. Digital 2000/ERI-Safety.

Confined Space Hotwork: Checklist to Safety

DVD1934ES, 19 min.

Covers proper safety procedures for confined space hotwork, including entry permits and hotwork permits. Also reviews emergency rescue. 2008, 1993. Coastal. Includes quiz.

Confined Space: Inside Maneuvers

DVD2211ES, 23 min.

Compares confined space work to a submarine environment – tight space, critical atmospheric conditions, many potential hazards. Presents the USS Atlanta, a U.S. Naval submarine, and its crew, as a dramatic backdrop to the discussion. Covers space hazards, atmospheric testing, confined space entry permit requirements, confined space rescue, and team responsibilities. Coastal. Includes employee quiz.



Confined Space: Keeping Public Employees Safe

DVD1937ES, 15 min.

Trains public employees to work safely in these dangerous spaces and to keep organizations OSHA-compliant. Covers OSHA permit space requirements, understanding permit spaces and their hazards, entry permits, and training and duties. 2008. Coastal. Includes quiz.

Confined Space: Non-Entry Rescue

DVD1938ES, 20 min.

Covers dangers of confined spaces and the attendant's responsibilities. Teaches employees how to get someone out of a confined space without endangering themselves. Complies with OSHA 1910.146. Discusses the written permit and the retrieval system. 2005. Coastal. Includes quiz.

Cutting Torch Safety

DVD1065, 6 min.

Covers fireproofing floors and workbenches, and oxygen cylinder safety. Discusses importance of ventilation while working in confined spaces. Covers PPE and fire prevention for oxygen tank operations. Training Network.

High-Impact Life & Death Series Confined Space Entry

DVD1793, DVD1793S, 19 min.

Dramatizes how simple mistakes lead to major injuries and even death during a confined space entry operation. Discusses duties and responsibilities of each participant: the entrant, the attendant, and the entry supervisor. Covers the entry permit system, duties of rescue team members, air testing and monitoring, lockout and line-breaking procedures, and use of PPE in confined spaces. No copyright date. ERI-Safety. Includes quiz.

High-Risk Rescue

DVD2334, DVD2334S, 5 min.

Teaches that only trained rescuers should attempt confined-space rescues. Discusses confined-space hazards, proper rescue equipment, and attendant duties. Safety Shorts. Includes brief quiz.

Limited Spaces - Attics, Basements, and Crawl Spaces

DVD2354, 5 min.

Teaches employees to plan and take the precautions necessary to avoid limited-space hazards. Covers potential hazards, proper dress, safe work practices, and handling tools and equipment. Safety Shorts. Includes brief quiz.

Line Breaking: Use a Permit!

DVD1289, 16 min.

After the first 30 seconds of this program, workers will realize the gravity of the training they are about to receive. Covers the great potential for disaster for this relatively easy process. Discusses line and equipment opening (LEO), establishing an effective safety program, LEO permits, lockout/tagout, line-breaking procedures, and emergency response. Coastal. Includes quiz.

Once Too Many - Confined Space Entry

DVD2368, DVD2368S, 5 min.

Reviews basic safety procedures to ensure safe maneuvering in confined spaces. Covers safety rules, buddy systems, oxygen content, and atmosphere tests. Safety Shorts. Includes brief quiz.



Permit Required - Confined Space Entry

DVD2374, DVD2374S, 5 min.

Discusses different types of confined spaces and their different atmospheric conditions. Reviews OSHA requirements and the responsibilities of all involved in confined-space entry. Safety Shorts. Includes brief quiz.



APPENDIX D: CONFINED SPACES DEFINITIONS

"Acceptable Entry Conditions" means the conditions that must exist in a permit space to allow entry and to ensure that employees involved with a "permit-required confined space entry" can safely enter and work within the space.

"Attendant" means an individual stationed outside one or more permit spaces who monitors the authorized entrants and who performs all attendant's duties assigned in the employer's permit space program.

"Authorized Entrant" means an employee who is authorized by the employer to enter a permit space

"Barrier" means a physical obstruction that blocks or limits access.

"Blanking or Blinding" means the absolute closure of a pipe, line, or duct by the fastening of a solid plate (such as a spectacle blind or a skillet blind) that completely covers the bore and that is capable of withstanding the maximum pressure of the pipe, line, or duct with no leakage beyond the plate.

"Competent person" means one who is capable of identifying existing and predictable hazards in the surroundings or working conditions which are unsanitary, hazardous, or dangerous to employees, and who has the authorization to take prompt corrective measures to eliminate them.

"Confined Space" means a space that:

- is large enough and so configured that an employee can bodily enter and perform assigned work
- has limited or restricted means for entry or exit (for example, tanks, vessels, silos, storage bins, hoppers, vaults, and pits are spaces that may have limited means of entry.)
- is not designed for continuous employee occupancy.

"Control" means the action taken to reduce the level of any hazard inside a confined space using engineering methods (for example, by ventilation), and then using these methods to maintain the reduced hazard level. Control also refers to the engineering methods used for this purpose. Personal protective equipment is not a control.

"Controlling Contractor" is the employer that has overall responsibility for construction at the worksite. If the controlling contractor owns or manages the property, then it is both a controlling employer and a host employer.

"Double Block and Bleed" means the closure of a line, duct, or pipe by closing and locking or tagging two in-line valves and by opening and locking or tagging a drain or vent valve in the line between the two closed valves.

"Early-warning system" means the method used to alert authorized entrants and attendants that an engulfment hazard may be developing. Examples of early-warning systems include, but are not limited to: Alarms activated by remote sensors; and lookouts with equipment for immediately communicating with the authorized entrants and attendants.

"Emergency" means any occurrence (including any failure of hazard control or monitoring equipment) or event internal or external to the permit space that could endanger entrants.

"Engulfment" means the surrounding and effective capture of a person by a liquid or finely divided (flowable) solid 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.

"Entry" means the action by which a person passes through an opening into a permit-required confined space. Entry includes ensuing work activities in that space and is considered to have occurred as soon as any part of the entrant's body breaks the plane of an opening into the space, whether such action is intentional, or any work activities are performed in the space.

"Entry Employer" means any employer who decides that an employee it directs will enter a permit space.

"Entry Permit (Permit)" means the written or printed document that is provided by the employer to allow and control entry into a permit space and that contains the information specified in confined space standards.

"Entry rescue" occurs when a rescue service enters a permit space to rescue one or more employees.

"Entry Supervisor" means the person (such as the employer, foreman, or crew chief) 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 as required by this section. NOTE: An entry supervisor also may serve as an attendant or as an authorized entrant, if that person is trained and equipped as required by this section for each role he or she fills. Also, the duties of the entry supervisor may be passed from one individual to another during an entry operation.

"Hazard" means a physical hazard or hazardous atmosphere. See definitions below.

"Hazardous Atmosphere" means 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 one or more of the following causes:

- flammable gas, vapor, or mist in excess of 10 percent of its lower flammable limit (LFL)
- airborne combustible dust at a concentration that meets or exceeds its LFL. NOTE: This concentration may be approximated as a condition in which the dust obscures vision at 5 feet (1.52 m) or less;
- atmospheric oxygen concentration below 19.5 percent or above 23.5 percent;
- atmospheric concentration of any substance for which a dose or a permissible exposure limit is published in Subpart G, Occupational Health and Environmental Control, or in Subpart Z, Toxic and Hazardous Substances, of this Part and which could result in employee exposure more than its dose or permissible exposure limit
- any other atmospheric condition that is immediately dangerous to life or health.

"Host employer" means the employer that owns or manages the property where the construction work is taking place. If the owner of the property on which the construction activity occurs has contracted with an entity for the general management of that property, and has transferred to that entity the information specified in § 1926.1203(h)(1), OSHA will treat the contracted management entity as the host employer for as long as that entity manages the property. Otherwise, OSHA will treat the owner of the property as the host employer. In no case will there be more than one host employer.



"Hot Work Permit" means the employer's written authorization to perform operations (for example, riveting, welding, cutting, burning, and heating) capable of providing a source of ignition.

"Immediately Dangerous to Life or Health (IDLH)" means any condition that poses an immediate or delayed threat to life or that would cause irreversible adverse health effects or that would interfere with an individual's ability to escape unaided from a permit space. NOTE: Some materials -- hydrogen fluoride gas and cadmium vapor, for example -- may produce immediate transient effects that, even if severe, may pass without medical attention, but are followed by sudden, possibly fatal collapse 12-72 hours after exposure. The victim feels normal from recovery from transient effects until collapse. Such materials in hazardous quantities are considered immediately dangerous to life or health.

"Inerting" means the displacement of the atmosphere in a permit space by a noncombustible gas (such as nitrogen) to such an extent that the resulting atmosphere is noncombustible. NOTE: This procedure produces an IDLH oxygen-deficient atmosphere.

"Isolate" or **"Isolation"** means 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: blanking or blinding; misaligning or removing sections of lines, pipes, or ducts; a double block and bleed system; lockout or tagout of all sources of energy; or blocking or disconnecting all mechanical linkages; or placement of barriers to eliminate the potential for employee contact with a physical hazard.

"Line Breaking" means the intentional opening of a pipe, line, or duct that is or has been carrying flammable, corrosive, or toxic material, an inert gas, or any fluid at a volume, pressure, or temperature capable of causing injury.

"Lockout" means the placement of a lockout device on an energy isolating device, in accordance with an established procedure, ensuring that the energy isolating device and the equipment being controlled cannot be operated until the lockout device is removed.

"Lower Flammable Limit" or **"Lower Explosive Limit"** means the minimum concentration of a substance in air needed for an ignition source to cause a flame or explosion.

"Monitor" or **"Monitoring"** means the process used to identify and evaluate the hazards after an authorized entrant enters the space. This is a process of checking for changes that is performed in a periodic or continuous manner after the completion of the initial testing or evaluation of that space.

"Non-Entry Rescue" occurs when a rescue service, usually the attendant, retrieves employees in a permit space without entering the permit space.

"Non-Permit Confined Space" means 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.

"Oxygen Deficient Atmosphere" means an atmosphere containing less than 19.5 percent oxygen by volume.

"Oxygen Enriched Atmosphere" means an atmosphere containing more than 23.5 percent oxygen by volume.

"Permit-Required Confined Space (Permit Space)" means a confined space that has one or more of the following characteristics:

- contains or has a potential to contain a hazardous atmosphere
- contains a material that has the potential for engulfing an entrant
- 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
- contains any other recognized serious safety or health hazard.

"Permit-Required Confined Space Program (Permit Space Program)" means the employer's overall program for controlling, and protecting employees from permit space hazards, and for regulating employee entry into permit spaces.

"Physical Hazard" means an existing or potential hazard that can cause death or serious physical damage. Examples include, but are not limited to: Explosives (as defined by paragraph (n) of § 1926.914, definition of "explosive"); mechanical, electrical, hydraulic and pneumatic energy; radiation; temperature extremes; engulfment; noise; and inwardly converging surfaces. Physical hazard also includes chemicals that can cause death or serious physical damage through skin or eye contact (rather than through inhalation).

"Prohibited Condition" means any condition in a permit space that is not allowed by the permit during the period when entry is authorized.

"Qualified Person" means one who, by possession of a recognized degree, certificate, or professional standing, or who by extensive knowledge, training, and experience, has successfully demonstrated his ability to solve or resolve problems relating to the subject matter, the work, or the project.

"Representative Permit Space" means a mock-up of a confined space that has entrance openings that are similar to, and is of similar size, configuration, and accessibility to, the permit space that authorized entrants enter.

"Rescue" means retrieving, and providing medical assistance to, one or more employees who are in a permit space.

"Rescue Service" means the personnel designated to rescue employees from permit spaces.

"Retrieval System" means the equipment (including a retrieval line, chest or full-body harness, wristlets, if appropriate, and a lifting device or anchor) used for non-entry rescue of persons from permit spaces.

"Serious Physical Damage" means an impairment or illness in which a body part is made functionally useless or is substantially reduced in efficiency. Such impairment or illness may be permanent or temporary and includes, but is not limited to, loss of consciousness, disorientation, or other immediate and substantial reduction in mental efficiency. Injuries involving such impairment would usually require treatment by a physician or other licensed health-care professional.



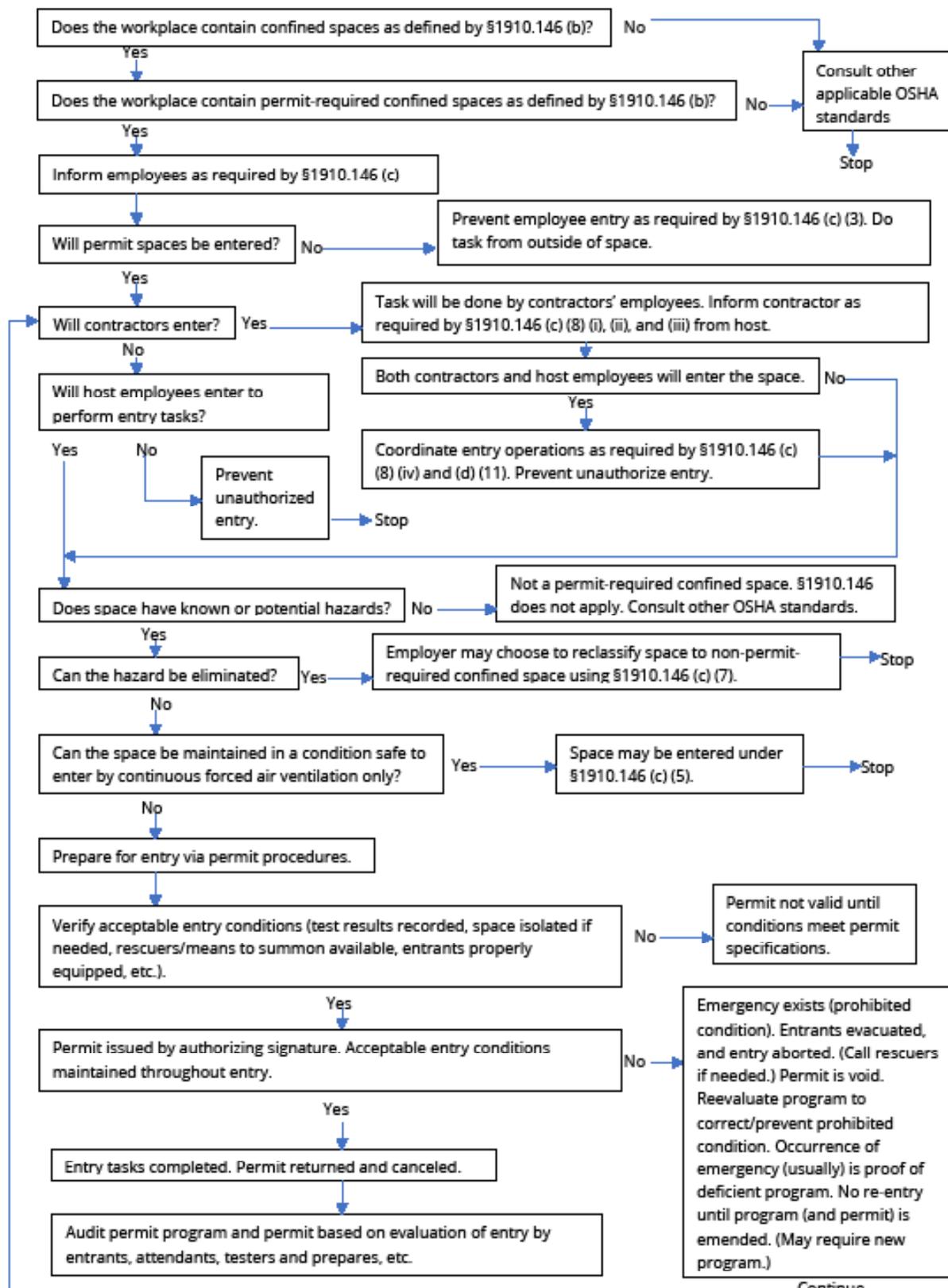
"Tagout" means:

- placement of a tagout device on a circuit or equipment that has been deenergized, in accordance with an established procedure, to indicate that the circuit or equipment being controlled may not be operated until the tagout device is removed; and
- the employer ensures that:
 - tagout provides equivalent protection to lockout; or
 - that lockout is infeasible and the employer has relieved, disconnected, restrained and otherwise rendered safe stored (residual) energy.

"Test or Testing" means the process of identifying and evaluating the hazards someone may confront when entering a permit space. Testing includes specifying the tests that are to be performed in the permit space. NOTE: Testing enables employers both to devise and implement adequate control measures for the protection of authorized entrants and to determine if acceptable entry conditions are present immediately prior to, and during, entry.

"Ventilate" or "Ventilation" means controlling a hazardous atmosphere using continuous forced-air mechanical systems that meet the requirements of § 1926.57 (Ventilation).

APPENDIX E: PERMIT-REQUIRED CONFINED SPACE DECISION FLOW CHART



CONTINUE