

OAR 437, Oregon Occupational Safety and Health Division
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DIVISION 2, GENERAL INDUSTRY

Subdivision J – General Environmental Controls

437-002-0146 Confined Spaces

(1) Purpose and application. This rule applies to all activities in confined spaces and provides requirements to protect employees from the hazards of entering and working in confined spaces.

(2) Exceptions. This standard does not apply to the following:

- (a) Construction work regulated by Division 3/P Excavations, except for entry into sanitary sewer spaces that are large enough to bodily enter.
- (b) Construction work regulated by Division 3/S Underground Construction, Caissons, Cofferdams and Compressed Air, except for sewers.
- (c) Enclosed spaces regulated by 1910.269 in Division 2/R Electric Power Generation, Transmission and Distribution, except when that standard requires compliance with this standard.
- (d) Enclosed spaces regulated by 1926.953 in Division 3/V Electric Power Generation, Transmission and Distribution, except when that standard requires compliance with this standard.
- (e) Manholes and vaults regulated by 1910.268(o) in Division 2/R Telecommunications, unless the space cannot be made safe to enter even after following the requirements of 1910.268(o).
- (f) Welding in confined spaces regulated by Division 2/Q Welding, Cutting & Brazing, when the only hazards are related to the welding process.
- (g) Grain bins, silos, tanks, and other grain storage structures regulated by 1910.272, Grain Handling Facilities.
- (h) Diving operations regulated by Division 2/T, Commercial Diving Operations.
- (i) Except for (a) through (h) above, when any other applicable standard addresses work in confined spaces or additional hazards that may be present, you must comply with the provisions of that standard and this standard. Where the requirements of one standard are more restrictive than the other, follow the more stringent requirements.

(3) Definitions.

Acceptable entry conditions: The conditions that must exist in a permit-required confined space to allow safe entry and work.

Alternate entry – An alternative process for entering a permit space under very specific conditions. The space remains a permit space even when entered using alternate entry and even though no entry permit is required in those circumstances.

Atmospheric hazard (see the definition of hazardous atmosphere).

Atmospheric testing – see “Testing.”

Attendant – An individual stationed outside one or more permit spaces to monitor the authorized entrants and who performs all attendants duties assigned in the employer's permit space program.

Authorized – Approved by the employer or controlling contractor.

Authorized entrant – An employee who is authorized by the employer to enter a permit space.

Barrier – A physical obstruction that blocks or limits access.

Blanking or blinding – 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.

Calibration – The checking of a direct-reading instrument against an accurate standard (such as a calibration gas) to determine any deviation and correct for errors.

Note: A similar process may also be referred to as a “bump test” in which an instrument is tested with an accurate standard to ensure it is still reading correctly. For the purposes of this rule, a “bump test” performed in accordance with the manufacturer's instructions can be used to verify calibration.

Confined space – A space that meets all of the following:

Large enough and so configured that an employee can fully enter the space and perform work.

Has limited or restricted means for entry and/or exit.

Is not designed for continuous human occupancy.

Continuous system – a confined space that meets all of the following:

Part of, and contiguous with, a larger confined space (for example, storm sewers, sanitary sewers, or steam tunnels).

Subject to a potential release from the larger confined space that can overwhelm control measures and/or personal protective equipment, resulting in a hazard that is immediately dangerous to life and health.

Control or controlling – Authority to regulate, direct or influence.

Controlling contractor – The employer that has overall responsibility for construction at a worksite.

Note: A controlling contractor who owns or manages a property is both a controlling contractor and a host employer.

Double block and bleed – 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.

Emergency – 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 hazard – A physical hazard consisting of a liquid or flowable solid substance that can surround and capture an individual. Engulfment hazards may cause death or serious physical harm if: the individual inhales the engulfing substance into the respiratory system (drowning, for example); the substance exerts excessive force on the individual's body resulting in strangulation, constriction, or crushing; or the substance suffocates the individual.

Entrant (see the definition of authorized entrant).

Entry – The action by which any part of an employee's body breaks the plane of an opening into a confined space. Entry (or entry operations) also refers to the period during which an employee occupies a confined space.

Entry Permit – Written authorization from the employer, controlling contractor, or host employer to enter a permit-required confined space and perform work.

Entry supervisor – The person (such as the employer, foreman, or crew chief, or any other designated employee) responsible for:

Determining if acceptable entry conditions are present at a permit space where entry is planned; and

Authorizing entry and overseeing entry operations; and

Terminating entry as required.

Hazard – For the purpose of this rule, hazard means a physical hazard or hazardous atmosphere.

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

Hazard elimination – The action taken to remove a hazard from the work environment. For confined spaces, this includes isolation. For a hazard to be eliminated, the conditions that create or cause the hazard no longer exist within the confined space.

Hazardous atmosphere – An existing or potential atmosphere that may expose employees to the risk of death, incapacitation, impairment of ability to escape unaided from a permit space, injury, or acute illness from one or more of the following:

A flammable gas, vapor, or mist in excess of 10 percent of its lower flammable limit.

An airborne combustible dust at a concentration that meets or exceeds its lower explosive limit.

Note: This concentration may be approximated as a condition in which the dust obscures vision at a distance of 5 feet (1.52 meters) or less.

An atmospheric oxygen concentration below 19.5 percent (oxygen deficient) or above 23.5 percent (oxygen enriched).

An airborne concentration of a substance that exceeds the dose or exposure limit specified by an Oregon OSHA requirement.

Note: An atmospheric concentration of any substance that is not capable of causing death, incapacitation, impairment of ability to escape unaided, injury, or acute illness due to its health effects is not covered by this provision. You must still follow all other applicable Oregon OSHA requirements to protect employee health.

An atmosphere that presents an immediate danger to life or health (IDLH).

Host employer – An employer who owns or manages the property on which confined space work is taking place.

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 to be "immediately" dangerous to life or health.

Inerting – 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 – The elimination or removal of a physical or atmospheric hazard by preventing its release into a confined space. Isolation includes, but is not limited to, the following methods:

- blanking and blinding;
- misaligning or removing sections of lines, pipes, or ducts;
- a double-block-and-bleed system;
- machine guarding;
- blocking or disconnecting all mechanical linkages;
- locking out or tagging out energy sources.

Note: When using lockout/tagout, you must follow all of the requirements of 1910.147, "The Control of Hazardous Energy".

Mobile worker – An employee who performs work in multiple locations such as customer sites, company offices, private homes, vendor offices, or construction sites.

Monitor or monitoring – The process used to identify and evaluate the atmosphere in a permit space after an authorized entrant enters the space. This is a process of checking for changes in the atmospheric conditions within a permit space and is performed in a periodic or continuous manner after the completion of the initial testing of that space. (See also "testing.")

Non-entry rescue – Retrieval of entrants from a permit space without entering the permit space.

Permit-required confined space (permit space) – 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 to engulf an entrant.
- Has an internal configuration such that an entrant could become 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 that can inhibit an entrants ability to escape unaided.

Physical hazard – An existing or potential hazard that can cause death or serious physical harm in or near a confined space, or a hazard that has a reasonable probability of occurring in or near a confined space, and includes, but is not limited to:

Explosives; mechanical, electrical, hydraulic, and pneumatic energy; radiation; temperature extremes; engulfment; noise; and inwardly converging surfaces; and

Chemicals that can cause death or serious physical harm through skin or eye contact (rather than through inhalation).

Potential hazards – All reasonably anticipated conditions within the space and outside the space that can adversely affect conditions within the space.

Rescue – Retrieving employees who are unable to remove themselves from a permit space. Rescue can be entry or non-entry, and can be conducted by the employer's employees or a third-party.

Rescue service – The onsite or offsite personnel who the employer designates to engage in non-entry and/or entry rescue of employees from a permit space.

Retrieval system – The equipment, including mechanical retrieval devices, used for non-entry rescue of authorized entrants from a permit space.

Serious physical harm – An impairment in which a body part is made functionally useless or is substantially reduced in efficiency. Such impairment may include loss of consciousness or disorientation, and may be permanent or temporary, or chronic or acute. Injuries involving such impairment would usually require treatment by a physician or other licensed health-care professional while an illness resulting in serious physical harm could shorten life or substantially reduce physical or mental efficiency by impairing a normal bodily function or body part.

Simulated Permit-Required Confined Space – Is a confined space or a mock-up of a confined space that has similar entrance openings, and is similar in size, configuration, and accessibility to the permit space the authorized entrants enter. A simulated space does not need to contain any physical or atmospheric hazards.

Testing – The process of identifying and evaluating the atmospheric hazards that entrants may be exposed to in a permit-required confined space. Testing includes specifying the initial tests that are to be performed in the permit space. (See also “monitor or monitoring”)

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 – Controlling an actual or potentially hazardous atmosphere using either powered equipment, such as fans and blowers, or reliable natural air flow, or a combination of the two, to reduce an otherwise hazardous atmosphere below the level that makes it a hazardous atmosphere. Ventilation is a method of hazard control, not hazard elimination.

You – The employer.

You can use this table to determine which requirements to follow.

Requirements for Confined Spaces										
For spaces that are	The requirements in the following paragraphs apply									
	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Confined spaces	X									
Permit-required confined spaces	X	X	X	X	X	X		X	X	X
Never entered	X									
If you only:										
Use alternate entry procedures	X				X			X	X	
Have other employers enter your space	X									X
Are a rescue service provider		X	X	X	X	X		X		X

(4) Evaluation.

(a) You must determine if any of your confined spaces are permit-required confined spaces. This evaluation must include:

(A) Any known or anticipated hazard.

Note: If the only hazard associated with a confined space is a fall hazard, it is not covered by the Confined Space rule. If the space contains other hazards that make it a permit space, the fall hazard must be addressed on the permit.

(B) The determination from any previous evaluation of that space.

(C) Any precautions and procedures previously implemented for entering the space.

(b) Exceptions:

(A) Employers of mobile workers (for example, contractors, electricians, plumbers) where they are not the property owner or controlling contractor are not required to perform this evaluation for the entire site. Mobile worker employers must evaluate the areas they are responsible for or where their employees will be working and must follow the requirements of (4)(e).

(B) Controlling contractors on sites with existing confined spaces are responsible for performing this determination only for the area under their control.

(C) On sites where confined spaces are being built, the host employer or controlling contractor is responsible for ensuring this determination is accomplished only when:

(i) Any of their employees enter that space.

(ii) An agent of the employer enters that space.

(iii) Employees of an employer accountable to that controlling contractor or host employer enter that space.

(iv) They assume control over that space.

(c) Before employees of another employer enter a confined space at your workplace that is under your control, and you have information related to paragraph (4)(a), you must provide it to that employer.

(d) When a space has hazards that make it a permit space:

(A) Develop and implement a means so employees can identify that space. Signs, labels, or tags are methods that can be used to accomplish this.

(B) Allow employees or their representatives to observe the evaluation or re-evaluation of the space.

(C) When conditions within a confined space or a permit space change, re-evaluate it.

(D) Take all necessary measures to prevent unauthorized employees from entering permit spaces.

(e) Prevent employees from entering any unevaluated confined space until it is fully evaluated.

(f) When your employees are mobile, you must determine if they will be exposed to permit-required confined spaces at their assigned work locations. This determination must include information, if any, from the host employer or controlling contractor.

- (A) Identify any physical and atmospheric hazards that make the space a permit-required confined space.
- (B) Allow employees or their representatives to observe the evaluation or re-evaluation of the space.
- (C) When conditions within a confined space or a permit space change, re-evaluate it.
- (D) Take all necessary measures to prevent unauthorized employees from entering permit spaces.
- (E) Prevent employees from entering any unevaluated confined space until it is fully evaluated.

(5) Permit-Required Confined Space Entry Program and Permits.

- (a) When employees must enter a permit space, develop and implement a written program that describes the means, practices, and procedures to safely identify and enter permit spaces.
- (b) Include the following in the program:
 - (A) Documentation of entry permit procedures.
 - (B) Measures taken to prohibit unauthorized persons from entering permit spaces.
 - (C) Designation of employee roles, such as entrants, attendants, entry supervisors, rescuers, or those who test or monitor the atmosphere in a permit space.
 - (D) Identification of designated employee duties.
 - (E) Training on the written program and entry permits.
 - (F) Training employees on their designated roles.
 - (G) Instructions to identify and evaluate hazards.
 - (H) Methods to eliminate and/or control hazards.
 - (I) Instructions on equipment use and maintenance.
 - (J) Instructions to coordinate entry with another employer.
 - (K) Procedures necessary for concluding the entry and canceling the permit after entry operations have been completed.
- (c) On fixed sites, include the following additional elements:

- (A) The location of all permit spaces.
- (B) The reason for the classification of each permit space or each type of permit space.

Note: Where there are multiple permit spaces of the same type that have the same hazards, such as sewers, water vaults, or valve pits, the exact location of each space does not need to be identified so long as there is enough information so that employees can readily identify each type of space and its hazards at each location.

- (C) Exception: The locations of permit spaces at remote unmanned locations do not need to be added to the program until the first time employees go to that location after the effective date of this rule.

- (d) Provide employees and their representatives access to the written program.
- (e) Provide entrants or their authorized representatives access to the completed permit before entry so they can confirm that pre-entry preparations have been completed.
- (f) Review the permit program when there is any reason to believe that employees are not adequately protected, and revise it as necessary.

- (A) Situations that require this review include:
 - (i) Unauthorized entry of a permit space.
 - (ii) Discovery of a previously unrecognized hazard.
 - (iii) Existence of a condition prohibited by the permit or permit program.
 - (iv) An injury or near-miss during entry.
 - (v) An employee reports of concerns about the effectiveness of the program.
 - (vi) Any other condition that affects employee safety or health.

- (B) When revising the permit program to correct hazard-related deficiencies, do not allow entries into affected permit spaces to be made until the revisions are complete.

- (C) Provide employees and their representatives access to the revised permit program.

- (g) Review permits within one year of their cancellation to evaluate:

- (A) The permit program.
- (B) The protection provided to employees entering permit spaces.

(6) Permit Entry.

(a) Develop and implement procedures for issuing permits. Procedures must include how to:

- (A) Evaluate the hazards of the space.
- (B) Evaluate hazards of the work to be performed.
- (C) Identify safe entry conditions.

(b) Entry permits must include the following information:

- (A) The space to be entered.
- (B) The purpose of the entry.
- (C) The date, start, and stop times of the permit.
- (D) The hazards of the space.
- (E) Acceptable entry conditions.
- (F) Results of initial tests and periodic monitoring performed to evaluate and identify the hazards and conditions of the space, or the period for continuous monitoring, accompanied by the names or initials of the testers and by an indication of when the tests were performed.
- (G) Appropriate measures used before entry to isolate the space and eliminate or control hazards.
Examples of appropriate measures include the de-energizing and lockout or tagging of equipment, and procedures for purging, inerting, ventilating, and flushing permit spaces.
- (H) Names of entrants and current attendants.
- (I) The signature of the original supervisor authorizing entry.
- (J) The current entry supervisor.
- (K) Communication procedures for entrants and attendants to maintain contact during the entry.
- (L) Equipment provided for safe entry, such as:
 - (i) Personal protective equipment (PPE).
 - (ii) Testing and monitoring equipment.
 - (iii) Communications equipment.

(iv) Alarm systems.

(v) Rescue equipment.

(M) Rescue services available, and how to contact them.

(N) Other information needed for safety in the particular permit space.

(O) Additional permits issued for work in the space, such as for hot work.

(P) Any problems, if any, encountered during the entry.

(c) Perform initial testing for atmospheric hazards, where necessary, before entry is made.

(d) Provide each entrant or their authorized representative with the results of any initial testing before they enter the space.

(e) Maintain safe entry conditions for the duration of the entry.

(A) When the space is too large to isolate, or is part of a continuous system, such as a sewer, ensure continuous monitoring where entrants are working for the duration of the entry.

(B) When an entrant or their authorized representative has reason to believe that the testing or monitoring was inadequate, re-test the space.

(f) Follow all actions and precautions identified on the permit.

(g) When conditions require the space to be evacuated, do not allow re-entry unless you:

(A) Re-assess the conditions of the space to ensure it is safe for re-entry and ensure the permit reflects the evacuation and subsequent re-assessment; or

(B) Issue a new permit.

(h) Allow entrants or their authorized representatives the opportunity to observe monitoring, testing, and all other actions taken to eliminate or control the hazards of the space.

(7) Equipment.

(a) When employees enter permit spaces, provide the following equipment as necessary:

(A) Testing and monitoring equipment.

(B) Ventilating equipment, when needed, used to obtain and maintain acceptable entry conditions.

- (C) Communication equipment, such as a two-way radio, for effective communication between the attendant and all entrants and to initiate rescue when necessary.
- (D) Lighting equipment needed to ensure employees can see well enough to work safely and exit the space quickly in the event of an emergency.
- (E) Barriers or shields to protect entrants from external hazards, such as pedestrians and vehicles.
- (F) Ladders or other equipment to safely enter and exit the space.
- (G) Rescue and emergency equipment necessary to safely and effectively rescue entrants.
- (H) Any other equipment necessary to safely enter and exit the space.
- (I) Personal protective equipment as mandated by any applicable Oregon OSHA standard or as otherwise required by the employer's assessment of the hazards.

- (b) Provide all necessary equipment at no cost to employees.
- (c) Ensure all equipment is maintained and used in accordance with the instructions from the manufacturer.
- (d) Train all employees who use equipment in the use of that equipment.

(8) Personnel.

- (a) Before employees enter permit spaces, designate entrants, attendants, and entry supervisors.

Note: The entry supervisor can also be either the attendant or entrant.

- (b) Entrants must:
 - (A) Know the hazards that may be faced during entry, including information on the type of hazard, as well as signs, symptoms, and consequences of exposure to those hazards.
 - (B) Communicate with the attendant as necessary so the attendant can monitor the entrant's status and to enable the attendant to alert entrants of the need to evacuate the space.
 - (C) Alert the attendant whenever the entrant detects a dangerous or hazardous condition or warning sign or symptom of exposure to a dangerous situation.
 - (D) Exit from the permit space as quickly as possible whenever:
 - (i) An order to evacuate is given by the attendant or the entry supervisor, or

- (ii) The entrant recognizes any warning sign or symptom of exposure to a dangerous situation, or
- (iii) The entrant detects a dangerous or hazardous condition, or
- (iv) An evacuation alarm is activated.

(c) Attendants must:

- (A) Know the hazards that may be faced during entry, including information on the type of hazard, as well as signs, symptoms, and consequences of exposure to those hazards.
- (B) Be aware of possible behavioral effects of hazard exposure in authorized entrants.
- (C) Continuously 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.
- (D) Remain outside the permit space during entry operations until relieved by another attendant.
- (E) Communicate with authorized entrants as necessary to monitor entrant status and to alert entrants of the need to evacuate the space.
- (F) 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:
 - (i) If the attendant detects a dangerous or hazardous condition;
 - (ii) If the attendant detects the behavioral effects of hazard exposure in an authorized entrant;
 - (iii) If the attendant detects a situation outside the space that could endanger the authorized entrants; or
 - (iv) If the attendant cannot effectively and safely perform all the duties required of the attendant.
- (G) Summon rescue and other emergency services as soon as the attendant determines that authorized entrants may need assistance to escape from permit space hazards.
- (H) Take the following actions when unauthorized persons approach or enter a permit space while entry is underway:
 - (i) Warn the unauthorized persons that they must stay away from the permit space;

- (ii) Advise the unauthorized persons that they must exit immediately if they have entered the permit space; and
- (iii) Inform the authorized entrants and the entry supervisor if unauthorized persons have entered the permit space.

Note: The employer can give the attendant the authority to remove unauthorized individuals who enter or who attempt to enter the permit space during entry operations, so long as the attendant does not enter the space.

- (I) Perform non-entry rescues as specified by the employer's rescue procedure; and
- (J) Perform no duties that might interfere with the attendant's primary duty to monitor and protect any authorized entrant.

NOTE: An attendant may monitor more than one space at a time, but the duties in relation to one space may not interfere with the duties for any other spaces. If an attendants' attention is focused on one space, such as to initiate the rescue procedures, all other spaces that the attendant is monitoring must be evacuated or another attendant must take over those duties first.

(d) Entry supervisors must:

- (A) Know the hazards that may be faced during entry, including information on the type of hazard, as well as signs, symptoms, and consequences of exposure to those hazards.
- (B) Understand the means and methods to control and/or eliminate the hazards of the permit space.
- (C) 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.
- (D) Inform entrants and attendants of the hazards and conditions associated with the space and the methods used to eliminate and/or control those hazards.
- (E) Terminate the entry and cancel the permit as required by the permit entry program.
- (F) Verify that rescue services are available and that the means for summoning them are operable.
- (G) Remove unauthorized individuals who enter or who attempt to enter the permit space during entry operations.

(H) Reevaluate the conditions within the space whenever responsibility for a permit space entry operation is transferred and at intervals dictated by the hazards and operations performed within the space.

(9) Rescue.

(a) Before employees enter a permit space, develop and implement procedures to remove entrants in the event of an emergency or when they are unable to evacuate without outside assistance. These procedures must include:

(A) The process for summoning rescue services.

Note: At a minimum, if an off-site rescue service is being considered, the employer must contact the service to plan and coordinate the evaluations required by the standard. Merely posting the service's number or planning to rely on the 911 emergency phone number to obtain these services at the time of a permit space emergency would not comply with the rescue requirements of the standard.

(B) The process for summoning emergency medical services or transporting injured entrants to a medical facility.

(C) If an injured entrant is exposed to a substance for which a Safety Data Sheet (SDS) or other similar written information is required to be kept at the worksite, that SDS or written information must be made available to the medical facility treating the exposed entrant.

(b) Ensure rescue personnel can respond to a rescue call in a timely manner. Timeliness is based on the identified hazards of the space. Rescuers must be able to reach potential victims within an appropriate time frame based on the identified hazards of the permit space.

Note: When there are multiple entrants in a permit space, the rescue plan needs to address how all entrants will be removed in a timely manner.

(c) Ensure all rescuers, including non-entry, entry, and third-party, are knowledgeable in basic first aid and cardiopulmonary resuscitation (CPR). At least one member must be certified in first aid and CPR.

Note: Additional medical training, such as oxygen administration, the use of automated external defibrillators (AEDs), and personnel decontamination should be considered.

(d) Rescuers must practice performing permit space rescues prior to entry and no more than 12 months before an entry.

(A) The practice rescue must include every type of space in which the rescue team may perform rescues.

(B) The practice rescue must include removing persons, dummies, or manikins from the actual permit spaces, or representative spaces (simulated permit-required confined spaces) that have similar opening size, configuration, and

accessibility issues as the actual permit spaces where rescue may be performed.

Note: Reliance upon "self rescue" does not constitute an acceptable rescue program.

(e) Where feasible, use non-entry retrieval systems or methods whenever an authorized entrant enters a permit space, unless it would increase the overall risk to the entrant or would not contribute to the rescue of the entrant.

(A) Non-entry Rescue. Use a retrieval system that meets the following requirements.

(i) Each authorized entrant must use 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 you can establish presents a profile small enough for the successful removal of the entrant. Wristlets or ankle straps or other equally effective means may be used in lieu of the chest or full body harness if you can demonstrate that the use of a chest or full body harness is infeasible or creates a greater hazard and that the use of other methods are the safest and most effective alternative.

(ii) Attach the other end of the retrieval line to a mechanical device or fixed point outside the permit space so that rescue can begin as soon as the attendant becomes aware that rescue is necessary. Ensure a mechanical device is available to retrieve personnel from vertical type permit spaces more than 5 feet (1.52 m) deep.

(B) Entry Rescue.

(i) Where non-entry rescue is not feasible or would increase the overall risk to the entrant, designate a rescue team before employees enter any permit space.

(ii) Ensure the rescue team:

(I) Can efficiently rescue employees from permit spaces.

(II) Has the appropriate equipment to rescue employees from all permit spaces employees enter.

(iii) Inform each rescue team or service about the hazards they may confront when called to perform rescue.

(iv) Provide the rescue team or service with access to all permit spaces from which rescue may be necessary.

(v) Provide rescue team members with personal protective equipment (PPE) needed for safe entry and any other equipment required to safely conduct rescues.

- (vi) Rescue team personnel must have the same training and proficiencies as a permit space entrant, attendant, and/or entry supervisor.
- (vii) When a third-party rescue service is used, ensure that the service is:
 - (I) Aware that they are so designated and agree to it prior to entry.
 - (II) Capable of performing all required rescue operations.
 - (III) Knowledgeable in first aid and CPR, and at least one member is certified in first aid and CPR.

(10) Alternate Entry.

(a) Permit spaces may be entered without a permit when:

- (A) All hazards have been eliminated; or
- (B) All physical hazards, if any, have been eliminated and all atmospheric hazards are controlled with continuous ventilation.

Note: For purposes of this rule, tagout alone does not eliminate a hazard.

Note: Continuous ventilation does not eliminate atmospheric hazards. It only controls the hazards.

(b) Exception: Alternate entry cannot be used to enter a continuous system unless you can isolate the area to be entered from the rest of the space, can demonstrate that the conditions that caused the hazard or potential hazard no longer exist within the system during the entry, or can demonstrate that engulfment cannot occur and continuous ventilation in the area to be entered is sufficient to control atmospheric hazards.

(c) When employees enter permit spaces under alternate entry, you do not need to comply with the requirements of paragraphs (5), (6), (8), (9), (12), and (13) of this rule for those entries.

(d) Develop and implement procedures for each space that can be entered with alternate entry procedures. These procedures must address:

- (A) Who can authorize alternate entry procedure and is responsible for ensuring safe entry conditions.
- (B) The hazards of the space.

Note: When fall hazards (if any) have been addressed and all other physical hazards, if any, have been eliminated and all atmospheric hazards have been eliminated, or are controlled with continuous ventilation, alternate entry is allowed.

- (C) The methods used to eliminate hazards.

- (D) The methods used to ensure that the hazards have been eliminated.
 - (E) The methods used to test the atmosphere within the space, where applicable, for all atmospheric hazards.
 - (F) The methods used to determine if unsafe conditions arise before or during entry.
 - (G) The criteria and conditions for evacuating the space during entry.
 - (H) The methods for training employees in these procedures.
 - (I) The methods for ensuring employees follow these procedures.
- (e) When using ventilation to control atmospheric hazards:
- (A) Use only properly calibrated direct-reading meters to test the atmosphere.
 - (B) Test the atmosphere for all identified atmospheric hazards before entering the space.
 - (C) Do not allow employees to enter until testing verifies that all identified atmospheric hazards are adequately controlled by the ventilation.
 - (D) Perform continuous monitoring for all atmospheric hazards during the entry.
 - (E) Immediately evacuate the space:
 - (i) When monitoring indicates the return of atmospheric hazards.
 - (ii) Upon any failure with the direct-reading instrument.
 - (iii) Upon any failure with the ventilation.
 - (iv) When a new hazard is introduced or conditions within the space change.
- (f) Provide all employees who will conduct the entry or their representatives the opportunity to observe all activities used to comply with this section.
- (g) Provide all employees who conduct entry an effective means of communication, such as a two-way radio, cell phone, or voice if other employees are present, to summon help while within the space.
- (h) When a space is evacuated, it cannot be re-entered as an alternate entry unless:
- (A) The conditions that necessitated the evacuation are corrected; and
 - (B) The re-entry is treated and documented as a new entry.

- (i) Document each entry. This documentation must include:
 - (A) The location of the space.
 - (B) The hazards of the space.
 - (C) The measures taken to eliminate the hazards.
 - (D) When applicable, the measures used to control the atmospheric hazards.
 - (E) When applicable, the identity of the direct-reading instruments used to test the atmosphere.
 - (F) When applicable, the results of the atmospheric testing.
 - (G) The date of the entry.
 - (H) The duration of the entry.
 - (I) When applicable, any and all conditions that required the evacuation of the space.
 - (J) The name, title, and signature of the person responsible for ensuring the safe entry conditions.

(j) Maintain this documentation for the duration of the entry at the location of the entry.

Note: Additional record retention requirements may apply under 1910.1020. "Access to Employee Medical and Exposure Records."

(11) Training.

(a) Train each employee involved in permit space activities so they acquire the understanding, knowledge, and skills necessary to safely perform their duties, according to their assigned responsibilities.

- (A) Provide training:
 - (i) For all new employees.
 - (ii) Before an employee is assigned permit space duties.
 - (iii) Before there is a change in an employee's assigned duties.
 - (iv) When there is a hazard for which the employee hasn't already been trained, or when there is a change in the hazards of an existing confined space.
 - (v) When there are changes to the permit program.
 - (vi) When the permit audit shows deficiencies.

(vii) Whenever there is a deviation from the established procedures or employee knowledge of the procedures is inadequate.

(B) Document employee training. Ensure the documentation:

(i) Contains the employee's name, the name and signature of the trainer, and the date of training.

(ii) Contains the responsibilities for which they were trained.

(iii) Is available for inspection by employees and their authorized representative.

(b) Ensure each employee is proficient in their assigned duties.

(c) Awareness training:

(A) Provide all employees whose work operations are or may be in an area where permit spaces are present with a basic overview of:

(i) The permit space program.

(ii) The entry permit system.

(iii) The alternate entry procedures, if used.

Note: Awareness training is not required for employees whose exposure is negligible, such as office workers who walk in a parking lot that has a sewer manhole or workers entering a building with a baghouse near it, as long as those employees have no other exposures to permit spaces. Similarly, when all permit spaces cannot be accessed or opened by employees, awareness training is not required.

An example of this are spaces that are locked or require a specialized tool, access to the key or tool is controlled, and access without the key or tool would require extraordinary means (such as a chop saw or cutting torch).

(B) Provide this training:

(i) For all new affected employees.

(ii) For all employees whose duties change to include work in areas with permit spaces.

(iii) When inadequacies in an employee's knowledge indicate that the employee has not retained the requisite understanding.

(iv) When there is a change in the permit program.

(v) When there are new or previously unidentified permit spaces.

(C) Ensure all employees understand how to recognize permit spaces in their work area.

(12) Multi-employer worksites.

(a) Unless you fall within an exemption under paragraph (4)(b), before employees of another employer enter permit spaces under your control, you must:

(A) Inform the employer and their employees:

(i) That the workplace contains permit spaces and can be entered only when the applicable requirements of this rule are met.

(ii) Of the identified hazards and your experience with each permit space they will enter.

(iii) Of any precautions or procedures you require to protect employees in or near spaces where the work will be performed.

(B) Coordinate entry operations with the employer, when employees of different employers will be working in or near the same permit spaces.

(C) Discuss entry operations with the employer after they are complete. This discussion must include:

(i) The program followed during permit space entry, and

(ii) Any hazards confronted or created.

(b) When your employees enter a permit space under the control of another entity, at the conclusion of entry operations, inform the controlling contractor and host employer about the precautions and procedures you followed and any hazards that were present or that developed during entry operations.

(13) Records. Keep cancelled permits for at least one year from the date the permit expires for review (see paragraph (5)(g)).

Note: Additional record retention requirements may apply under 1910.1020 “Access to Employee Medical and Exposure Records.”

(14) Effective dates. For work covered under Division 3, Construction, these rules are effective as of March 1, 2015.

Stat. Auth.: ORS 654.025(2) and 656.726(4).

Stats. Implemented: ORS 654.001 through 654.295.

Hist: OR-OSHA Admin. Order 6-2012, f. 9/28/12, ef. 4/1/13.

OR-OSHA Admin. Order 5-2014, f.10/20/14, ef. 1/1/15.