

**OREGON OCCUPATIONAL SAFETY AND HEALTH DIVISION  
DEPARTMENT OF CONSUMER AND BUSINESS SERVICES**

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**PROGRAM DIRECTIVE**

Program Directive A-62  
Issued April 2, 1981  
Revised December 31, 2014

- SUBJECT:** Confined Spaces and Permit Required Confined Spaces in General Industry and Construction
- PURPOSE:** This instruction establishes enforcement policy and provides explanation of the standard to ensure uniform enforcement.
- SCOPE:** This instruction applies to all Oregon OSHA.
- REFERENCES:**
1. Oregon OSHA Field Inspection Reference Manual (FIRM).
  2. [Summary of Comments and Agency Decisions to Confined Spaces in General Industry and Construction \(Final rule adopted 9/28/12, AO 6-2012\)](#)
- ACTION:** Enforcement managers must ensure that compliance officers follow the procedures established by this instruction.
- BACKGROUND:** The final rule for Permit Required Confined Spaces was published in the Federal Register on January 14, 1993, and became effective on April 15, 1993 for federal OSHA and July 1, 1993 for Oregon OSHA. This standard is based on years of gathering information on confined space fatalities and on testimony about the hazards of confined spaces from all sectors of industry and labor.
- On October 1, 2012, Oregon OSHA published a final standard on confined spaces that addresses confined space hazards in both general industry and the construction industry.
- STANDARD OVERVIEW:** This standard describes minimum safety and health program management practices for confined spaces and permit-required confined spaces (permit spaces). It also recognizes the dynamic character of permit spaces as they occur in General Industry and Construction. Thus, the standard and our enforcement, focus on the employer's whole program as conceived, documented, and implemented as a primary safeguard for workers and on the capacity of that program to detect confined space hazards and to respond to them appropriately. Inherent in the standard is the requirement (OAR 437-002-0146(4)(d)(C)) for employers to be ever mindful that changes in confined spaces may create or introduce a hazard that would require reevaluation and, in some cases, reclassification of spaces.

**COMPLIANCE  
OFFICER (CO)  
SAFETY:**

Oregon OSHA prohibits entry by compliance officers into permit required confined spaces.

**DOCUMENTATION  
FOR VIOLATIONS:**

Because the standard focuses on the integrity of the employer's program and each of its components, compliance officers must carefully review the employer's written permit space program and the documentation in support of that program, and note the extent of any discrepancy between the program as documented and as it is implemented. Deficiencies in either program content or in implementation may be cited, but the basis for any citation must be explicitly substantiated in the case file.

**CITATION  
GUIDANCE:**

Violations of the confined space standard will normally be death violations.

The determination of the probability and severity of any violation must follow the guidelines in the FIRM and the rules in OAR 437, Division 1.

**CLARIFICATION  
OF STANDARD:**

The guidance that follows relates to specific provisions of OAR 437-002-0146 and is provided to assist compliance officers in conducting inspections where the standard may be applicable.

1. Purpose and Application – OAR 437-002-0146(1). This standard applies to all work in confined spaces. 437-002-0146 is a General Industry and Construction standard. Employment in agriculture (Division 4) or shipyards (1915) is not covered by 437-002-0146 or this program directive.
2. Exceptions – OAR 437-002-0146(2) (a-h). This paragraph defines exemptions to the confined space rule. Below are clarifications of certain provisions:
  - a. Excavations – this exception applies only where the work includes entering sewer spaces that are large enough to bodily enter and perform work. Excavations that involve sewer pipes that are too small to bodily enter are covered by Division 3/P Excavations

Installation of new sewer lines are not covered by the confined space standard until those lines are connected or tied into an existing sanitary sewer line and become part of and attached to a larger confined space such as a sanitary sewer.

Additionally, an excavation that uncovers a sanitary sewer pipe is not covered by the confined space standard unless the sewer pipe is breached and entered.

- b. Welding in confined spaces regulated by Division 2/Q Welding, Cutting & Brazing, when the only hazards are related to the welding process.

This exemption applies only when the confined space has no hazards other than welding hazards. If other hazards are present, for example, a machine guarding issue, the space falls under this standard. When a space falls within the definition of a permit space, the hazards from the welding process must be included in the evaluation of the hazards of that space, even though those hazards alone would not make the space a permit space.

- c. When any other applicable standard addresses work in confined spaces, employers must comply with the provisions of that standard and the confined space standard, other than those activities exempted in 437-002-0146 (2)(a) through (h). When the requirements of one standard are more restrictive than the other, the employer must follow the more stringent requirements.

3. EVALUATION – OAR 437-002-0146(4). This paragraph requires employers to identify all permit spaces.

- a. Paragraph (4)(a) requires that employers evaluate their workplace to determine if there are permit-required confined spaces. While there are certain exceptions listed in the rule, the basic idea is that all employers need to determine if they have permit spaces, and then determine if any of those are permit-required confined spaces.

This evaluation must be made while the space is in its normal mode of operation. This evaluation is not made after measures are taken to make the space safe for entry. If measures must be taken to make the space safe to enter, it is most likely a permit space.

Information used to evaluate the space includes any known or anticipated hazards, either actual or reasonably anticipated. Review part 2 of Appendix A of the rule for considerations in evaluating hazards. Appendix B of the rule includes a non-inclusive list of hazards that can make a confined space a permit space.

Other considerations for this determination include if anyone else, such as a contractor, builder, or prior owner of the space, designated the space as a permit space or used precautions or took measures to enter that would suggest the presence of a potential hazard.

**INSPECTION AND CITATION GUIDELINES:**

Where an employer has not performed an evaluation and (4)(b) exceptions do not apply, the compliance officer must determine

if the site has a permit-required confined space. When an evaluation has not been done and the site has permit spaces, the probability and severity of the violation is based on the nature of the hazards, lack of hazard identification and control, and lack of protections afforded by the permit process.

When an employer has confined space(s) in their workplace, but has not identified one or more of those spaces as permit spaces, compliance officers must identify any actual or reasonably-anticipated potential atmospheric or serious physical hazards.

Atmospheric hazards must meet the criteria set in the definitions; that is, an oxygen-rich or oxygen-deficient atmosphere, a flammable gas, mist, or vapor above 10% of the lower flammable limit, a toxic atmosphere above the Immediately Dangerous to Life or Health (IDLH), combustible dust that exceeds 10 percent of the lower explosive limit, or a toxic atmosphere that exceeds the permissible exposure limit (PEL).

For substances that exceed the PEL, it is only those where exposures create an acute hazard that can inhibit an entrant's ability to evacuate on their own. Substances that present a chronic exposure hazard, such as asbestos or silica, are not considered permit space atmospheric hazards.

Physical hazards must also meet the criteria set in the definitions. These are also hazards that can inhibit an entrant's ability to evacuate on their own. Physical hazards such as tripping and slipping hazards do not typically rise to the level of designating a space as permit-required, although there can be exceptions, which is part of why every space needs to be evaluated for hazards. A fall hazard, in and of itself, also does not typically make a confined space a permit-required confined space, as the rules for fall protection already address fall hazards. However, any space that is identified as a permit space for other hazards must still address the fall hazard on the permit.

If an employer elects not to have their employees enter the confined space, a thorough evaluation of the space is not required. We do not expect employers to open confined spaces just to identify all of the hazards. For example, a boiler can have heat, engulfment, and atmospheric hazards, but there may be other hazards the employer may not know about because they don't open or enter it.

Some employers may determine that all of their spaces are permit spaces and have specific entry procedures for those spaces. If there is a deviation from the entry procedures, cite this as serious.

Similarly, some employers may require atmospheric monitoring of every confined space before their employees enter. Such testing does not, in and of itself, mean that the space is a permit space. The employer must still evaluate the space to determine if it is a permit space or not. When the employer determines that the space is not a permit space, the compliance officer must identify if there are hazards that would make the space a permit space as defined by this rule. If hazards are identified by the compliance officer but not the employer, cite this as a serious violation. If no hazards can be identified, the space is not a permit space and this paragraph will not normally be cited.

b. Paragraph (4)(b) has several exceptions to this initial evaluation:

- i. When workers are mobile, such as contractors, plumbers, electricians, etc., they are not required to evaluate the entire site they may be working at to determine if confined spaces are present. However, under (4)(f), they still must make this determination for the areas that they are responsible for or where their employees will be working.
- ii. When a contractor is on a site with confined spaces, the contractor is only responsible for identifying the permit spaces to which their employees are exposed. This can include spaces in the work area that the contractor does not intend to enter, although compliance officers must document how employees are exposed to these spaces.
- iii. On sites where confined spaces are being built, the host employer or controlling contractor is only responsible for evaluating the space in the following situations: their employee enters the space, an agent or someone representing them enters the space, an employee of an employer responsible to them enters the space, their employee enters the space, or they assume control over the space, which typically occurs when the work is completed by the entity building the space.

**INSPECTION GUIDELINES:** Compliance officers must determine who has control over a space during the construction process, as well as whether employees of another employer enter that space and follow the lines of responsibility.

For example, a city may hire a general contractor to build a new sewer system. That contractor becomes responsible for identifying and evaluating that space. If the general contractor hires subcontractors to perform work in that space, the general is required to provide information to those subcontractors as required in

437-002-0146 (4)(c). The city would not be responsible, unless the city hires another contractor to perform work in that space.

c. Paragraph (4)(c) requires that any information the employer has about a permit space must be shared if they hire another employer to enter that space. Cite this paragraph if an employer does not share any information they have regarding the hazards of a confined space.

d. Paragraph (4)(d) contains requirements (A-D):

i. Paragraph (4)(d)(A): When a space is determined to be a permit space, employees working in or around that space need to understand that it is a permit space.

**INSPECTION AND CITATION GUIDELINES:** This paragraph **does not** require that every permit space have a sign or label, although those can be used to help identify those spaces. This paragraph does require that employees are able to identify permit spaces. Compliance officers will determine if the employer has a method to inform employees of the permit spaces in their work areas and interview employees to determine if they understand how to recognize permit spaces in their work areas. This paragraph will be cited when employees are unaware of permit spaces in their work area. See also the requirements of paragraph (11)(c).

ii. Paragraph (4)(d)(B): Employees or employee representatives have the right to observe the evaluation or re-evaluation of a confined space.

iii. Paragraph (4)(d)(C): When conditions change within a confined space or permit space, it needs to be re-evaluated to determine if any of those changes impact the hazards of the space. Changes can come from a myriad of conditions, including process changes, installation of new equipment, removal of old equipment, or hazards introduced by the work to be performed inside the space. Abnormal or upset conditions are also changes that need to be addressed, such as burst pipes, chemical spills, or liquid intrusions.

**INSPECTION AND CITATION GUIDANCE:** When the compliance officer can document hazards not identified in the initial assessment, cite this paragraph.

iv. Paragraph (4)(d)(D): Measures need to be taken to prevent unauthorized entries into permit spaces. These measures can include permanently closing the space and

physical barriers, as well as bolting or locking the space, supplemented by training employees and posting danger signs. The steps taken by the employer must be capable of preventing employees from entering permit spaces.

- e. Paragraph (4)(e) requires that unevaluated confined spaces cannot be entered until they are evaluated. When a space was inadvertently missed during the initial identification and evaluation, or a new space has not yet been assessed, it cannot be entered.

**INSPECTION AND CITATION GUIDANCE:** When employees enter a confined space that has not been identified, compliance officers will cite this paragraph as serious.

- f. Paragraph (4)(f) is specific to employers of mobile workers, which can include plumbers, electricians, construction workers, etc., and requires only that they evaluate the confined spaces they will be working in or around. The mobile worker employer is not responsible for evaluating the entire site unless they own or control the site or their workers will be working in or around the confined spaces on the entire site. Unlike workers at fixed locations, mobile workers typically enter spaces owned by other entities. Under these circumstances, the evaluation is made when the work is assigned or before the work begins. Paragraphs (4)(f)(A) through (E) mirror some of the requirements above but are specific to mobile workers.

**INSPECTION AND CITATION GUIDELINES:** Compliance officers will identify the process by which mobile workers evaluate confined spaces before they enter those spaces. Cite this paragraph when actual or potential hazards were not identified before employees entered the space. Cite any deficiency in relation to paragraphs (4)(f)(A) through (E) as serious.

- 4. **PERMIT-REQUIRED CONFINED SPACE ENTRY PROGRAM AND PERMITS - OAR 437-002-0146(5).** This paragraph describes the measures that must be implemented and followed when employees must enter permit spaces. It is referring to a full permit entry process. Alternate entry requirements are in paragraph (10).

- a. Paragraph (5)(a) requires the development and implementation of a written permit space program. Paragraph (5)(b) lists the specific items that must be addressed.

**INSPECTION AND CITATION GUIDANCE:** Confined space entry is defined as any part of the body breaking the plane of the opening of the confined space. Compliance officers must document how breaking that plane exposes an employee to the hazards that made the confined space a permit space. For

example, if the only hazard of a permit space is moving machinery, and that machinery is beyond the reach of an employee whose only exposure is sticking part of their arm to clean an instrument panel, it would be a minimal violation. On the other hand, if there are atmospheric hazards and the action of breaking the plane exposes an employee's breathing zone to that hazard, it would constitute an entry.

When an employer does not have a written program for entering permit spaces and does not have procedures for using the alternate entry process as described in paragraph (10), compliance officers will document the conditions of the entry and cite paragraph (5)(a).

When employees are allowed to enter a permit space without a permit or under the alternate entry process, compliance officers will cite paragraph (5)(a). The probability will be rated higher because of the lack of protections afforded by the permit process.

When an employer has a written program but has not implemented any of it, compliance officers will cite paragraph (5)(a).

When an employer has a written program, but is missing one or more of the elements listed in (5)(b), compliance officers will cite (5)(a) and list the missing elements.

- b. Paragraph (5)(c) applies only to fixed workplaces.
  - i. Paragraph (5)(c)(A) requires that the location of all permit spaces must be part of the written program. This is essentially an inventory of the permit spaces, and the information about the space must be complete enough so that an employee reviewing the list can understand the actual space to which the list refers. This list can also identify types of permit spaces when there are multiple spaces of the same type, such as sewer manholes, as long as the information about the type of space is complete enough so that an employee reviewing the list can identify the spaces to which the list refers. This list can also be an appendix to the written program, or a separate document, as long as the written program identifies the location of the list.

**INSPECTION AND CITATION GUIDANCE:**

Compliance officers will cite this paragraph if there is no list of permit spaces. Paragraph (5)(c)(A) will also be cited when an employer has identified a confined space as a permit space, but did not include it in the list.

- ii. Paragraph (5)(c)(B) requires that the list of permit spaces also include the reason the space is classified as a permit space. The complexity of this depends on the nature of the hazards of the space and the ability of employees to understand the hazards of that space. When there are atmospheric hazards, this list needs to identify the nature of the hazard (O<sub>2</sub> deficiency, flammable gasses, etc.). When there may be a toxic atmosphere, the identity of the specific substance must be identified.

Alternatively, when an employer has specific instructions for entering each permit space or type of permit space that includes all of the hazards of that space (such as a job hazard analysis), the list can refer to that specific procedure.

- iii. Paragraph (5)(c)(C) is an exception to this list. When an employer has a remote site that is normally unmanned, permit spaces at that site do not need to be added to this list until an employee goes to that location. The intention of this is to make it clear that employers do not have to travel to each remote site for the sole purpose of adding permit spaces to this list. However, when an employee must travel to that site for any reason, the employer must ensure that all permit spaces at that site are accounted for in the list of permit spaces.

**INSPECTION AND CITATION GUIDANCE:** When an employer has remote unmanned locations with permit spaces, information will be gathered via employee interviews regarding the presence of permit spaces at those locations and if employees have traveled to those locations. If those interviews reveal the presence of permit spaces and employee activity, the compliance officer may need to travel to that location to document the presence of both. The compliance officer may also determine if there is an entry log for those locations and use that information to determine employee activity. However, if an employer has already identified the types of spaces at that location so that employees can identify them, no further action is necessary.

- c. Paragraph (5)(f) requires that the program is reviewed when there is a potential problem, such as the issues listed in (5)(f)(A)(i) through (vi). This review can be initiated after reviewing cancelled permits as required by paragraph (5)(g).

Paragraph (5)(f)(B) prohibits entries into affected permit spaces while the written program is being revised. The nature of the revisions can vary and may or may not affect a particular permit space entry. For example, where a program is being revised to

address coordinating entry operations with another employer, the revisions do not affect entry operations when another employer isn't involved.

- d. Paragraph (5)(g) requires an annual review of cancelled permits. Paragraph (13) requires that cancelled permits are kept for one year for this review.

**INSPECTION AND CITATION GUIDANCE:** Compliance officers must determine how permits are reviewed and who is responsible for the review. Employers may have a process to review cancelled permits as they are submitted, or they may review all cancelled permits on a periodic basis. Compliance officers will also review cancelled permits to ensure they are completed correctly and identify any deficiencies the review failed to recognize.

When deficiencies are identified and the employer does not have a review process, the compliance officer will cite (6)(b) for the specific deficiency and (5)(f) for the lack of review. When the deficiency in the cancelled permit indicates a deficiency with the written program, compliance officers will document how the employer should have known about the deficiency. This documentation can include employer and employee interviews. When compliance officers can show knowledge, cite (5)(g) as well.

- 5. PERMIT ENTRY – OAR 437-002-0146(6). This paragraph describes specific actions during permit entries.

- a. Paragraph (6)(a) requires that the employers develop a procedure for issuing permits. This procedure may be part of the written program, although it is not required that this procedure is in writing. This procedure may be part of the scope of responsibilities of the entry supervisor.

**INSPECTION AND CITATION GUIDANCE:** Compliance officers will interview employers and employees to identify the process for issuing permits, including the initial determination that work inside a permit space will be necessary. This process may be within the duties of the entry supervisor, may be part of the written program, or both.

If there is no process, cite paragraph (6)(a). If there is a process with missing elements as described in (6)(a)(A) through (C), cite the appropriate element(s).

- b. Paragraph (6)(b) lists the items that must be on a permit. Examples of permits are included in Appendix C of the rule, although there is no requirement that an employer must use one of those examples.

- c. Paragraph (6)(c) requires atmospheric testing, when there are potential or actual atmospheric hazards, before entry is made. The complexity of the testing depends on the nature of the hazards and the nature of the space. Testing must account for atmospheric stratification and pocketing, particularly in spaces that have vertical and horizontal components. In some situations, such as when the potential for an explosive atmosphere exists, testing is necessary before opening the cover. Paragraphs (7)(c) covers equipment maintenance and use in accordance with manufacturer's instructions and (d) addresses employee training who use equipment, including atmospheric testing equipment.

INSPECTION AND CITATION GUIDANCE: Compliance officers will cite this paragraph when the permit identifies atmospheric hazards and testing is not done prior to entry. When compliance officers identify deficiencies in how the space is tested, see the sections on paragraphs (7)(c) and (d).

- d. Paragraph (6)(d) requires that entrants or their representatives are provided with the results of the initial testing. Typically, the results are recorded on the permit. This is acceptable as (6)(h) requires that entrants or their representatives have access to the completed permit.
- e. Paragraph (6)(e) requires that safe entry conditions are maintained for the duration of the entry.

Paragraph (6)(e)(B) requires that the atmosphere of a space must be re-tested if an entrant (or their representative) believes that the initial testing or monitoring is inadequate. While this retesting would not require a new permit, it does require that the space is evacuated, the results of the retesting must be recorded on the permit, and the circumstances of the retesting must be documented on the permit, in accordance with paragraph (6)(e).

- f. Paragraph (6)(f) requires that all actions and precautions identified on the permit are followed.

INSPECTION AND CITATION GUIDANCE: When the permit has deficiencies, compliance officers will cite the appropriate deficiency under paragraph (6)(b). When the permit identifies specific actions or precautions but they are not followed, compliance officers will cite paragraph (6)(f).

- g. Paragraph (6)(g) has specific requirements if a space is evacuated for any reason.

Paragraph (6)(g)(A) requires that the space is reassessed if conditions within the space require an evacuation, Employees can re-enter the space as long as the results of the reassessment

are documented along with the conditions that required the evacuation. An alternative is for the employer to issue a new permit, under (6)(g)(B). This effectively cancels the first permit and starts the process all over.

- h. Paragraph (6)(h) specifies that entrant or their representatives have the opportunity to observe all actions taken to eliminate or control the hazards of a permit space. This includes any atmospheric monitoring.
6. EQUIPMENT – OAR 437-002-0146(7). This paragraph requires that employers provide equipment to safely enter and work in permit spaces.
- a. Paragraph (7)(a) includes a list of equipment that may be necessary to conduct permit entry operations. The nature of the entry, the space, and the work to be performed will indicate the type of the equipment necessary.
  - b. Paragraph (7)(c) requires that all equipment is used according to the manufacturer's instructions.

**INSPECTION AND CITATION GUIDANCE:** All equipment, not just gas detection equipment, must be used according to the manufacturer's instructions. When the employer does not have the manufacturer's instructions for a piece of equipment, compliance officers will attempt to contact the supplier or manufacturer and obtain a copy of the instructions.

Where the instructions are not available and misuse of the equipment can be documented, compliance officers may refer to the specifications to which the equipment was built (such as an ANSI standard) and determine if general use information is available regarding that particular type of equipment. When this information is available, cite paragraph (7)(c).

For gas detection equipment, a common issue of concern is bump testing and calibration. The International Safety Equipment Association (ISEA), founded in 1933, is a trade association for manufacturers of protective equipment, including environmental monitoring instruments. The ISEA recommends, at a minimum, verification of sensor accuracy before each day's use. The ISEA issued a position statement on instrument calibration that states, "A bump test or full calibration of direct-reading portable gas monitors should be made before each day's use in accordance with manufacturer's instructions, using an appropriate test gas." If the instrument fails a bump test, it must be adjusted through a full calibration before it is used

The only way to guarantee that an instrument will detect gas accurately and reliably is to test it with a known concentration of gas. Exposing the instrument to a known concentration of test gas will show whether the sensors respond accurately and whether the instrument alarms function properly.

ISEA recommends more frequent testing if environmental conditions that could affect instrument performance are suspected, such as sensor poisons. The ISEA allows for less frequent calibration verification under certain conditions, but the interval between testing should never exceed 30 days.

In 2004, federal OSHA posted a Safety and Health Information Bulletin (SHIB) regarding the verification of calibration of direct gas reading instruments, available at <https://www.osha.gov/dts/shib/shib093013.html>.

When an employer is not performing bump tests each day before the meter is used, review the instructions from the manufacturer. If the manufacturer recommends daily bump tests, cite paragraph (7)(c). When the manufacturer does not recommend daily bump tests, provide the employer with a copy of the above-mentioned SHIB and explain the importance of ensuring the equipment is working properly.

- c. Paragraph (7)(d) requires that employees are trained on the equipment they are expected to use.

**INSPECTION AND CITATION GUIDANCE:** Compliance officers will interview employers and employees to determine how employees are trained. This determination may include asking employees to demonstrate how any particular device or piece of equipment works.

When employees do not understand any piece of equipment they are expected to use, or cannot demonstrate how to use that equipment, compliance officers will document the deficiency and cite paragraph (7)(d). Depending on the circumstances, this may also be cited in conjunction with paragraph (7)(c).

- 7. PERSONNEL – OAR 437-002-0146(8). This paragraph describes the roles and responsibilities of entry supervisors, entrants, and attendants.
  - a. Paragraph (8)(a) requires that the employer designate entrants, attendants, and entry supervisors before any entry is made.

**INSPECTION AND CITATION GUIDANCE:** When the employer has not designated entrants, attendants, or entry supervisors, cite paragraph (8)(a).

When the employer has designated these roles, but failed to

identify them in the written program, cite paragraph (5)(b)(C).

- b. Paragraph (8)(b) identifies the duties of entrants.

INSPECTION AND CITATION GUIDANCE: Compliance officers will assess paragraphs (A)-(D) by interviewing employers and employees, as well as reviewing cancelled permits. Where a deficiency that has not already been identified and the employer has corrected the hazard, cite the applicable section of paragraph (8)(b). This may also be grouped with a violation of (11)(b) if the employer did not ensure that the employee proficient in their duties.

- c. Paragraph (8)(c) identifies the duties of attendants.

INSPECTION AND CITATION GUIDANCE: Compliance officers will assess paragraphs (A)-(J) by interviewing employers and employees, as well as reviewing cancelled permits. Where a deficiency that has not already been identified and the employer has corrected the hazard, cite the applicable section of paragraph (8)(c). This may also be grouped with a violation of (11)(b) if the employer did not ensure that the employee proficient in their duties.

- d. Paragraph (8)(d) identifies the duties of entry supervisors.

INSPECTION AND CITATION GUIDANCE: Compliance officers will assess paragraphs (A)-(H) by interviewing employers and employees, as well as reviewing cancelled permits. When a deficiency that has not already been identified and the employer has corrected the hazard, cite the applicable section of paragraph (8)(d). This may also be grouped with a violation of (11)(b) if the employer did not ensure that the employee proficient in their duties.

- 8. RESCUE - OAR 437-002-0146(9). This paragraph describes the requirements for rescuing entrants from a permit space.

- a. Paragraph (9)(a) requires procedures for rescue to be developed and implemented before an employee enters a permit space. While this is not required to be in writing, the procedures need to include the process for summoning rescue, summoning emergency medical services or transporting injured entrants to a medical facility, and the process to include safety data sheets (SDSs) or material safety data sheets (MSDSs) for the hazardous chemicals the entrant may have been exposed to.

INSPECTION AND CITATION GUIDANCE: Compliance officers will evaluate these procedures by interviewing employers and employees, as well as a reviewing written permit space programs and cancelled permits.

When an employer uses non-entry rescue, there is no requirement to have an entry rescue team on standby. The rule only requires one or the other, not both.

- b. Paragraph (9)(b) requires that a rescue personnel can respond in a timely manner. The note clarifies that it is the hazards of the space that determine the timeliness needs. In most cases, the attendant is likely to be the primary rescuer as they can activate the retrieval system, so the timeliness of response is less of an issue under those circumstances. However, if the attendant is not the primary rescuer, the rescuers may need to be on-site and ready to go, depending on the nature of the hazards of the space. For example, an oxygen-deficient atmosphere can cause death within minutes, so rescuers would need to be able to retrieve an entrant within minutes. Physical hazards, such as those that can cause electrocution or amputation and cannot be eliminated, also require retrieval within minutes should the entrant be injured.
- c. Paragraph (9)(c) requires that all rescue personnel be knowledgeable in first aid and CPR. At least one member must be certified. When the attendant is the rescuer, the attendant must be knowledgeable and certified if they are the only member of the rescue team.
- d. Paragraph (9)(d) requires practice rescues prior to entry or within 12 months of an entry. Review Appendix D of the rule, particularly section 2. b. x. for considerations in deciding if a space is representative of other spaces.
- e. Paragraph (9)(e) requires that employers use non-entry rescue when it is feasible, unless it would increase the overall risk to the entrant or would not contribute to the rescue of the entrant.

INSPECTION AND CITATION GUIDANCE: If an employer uses entry rescue in lieu of non-entry rescue, compliance officers will evaluate the types of entries when non-entry rescue can be used. When compliance officers can demonstrate that non-entry rescue is feasible when an employer has opted for an entry rescue team, cite paragraph (9)(e).

- f. Paragraph (9)(e)(A) addresses non-entry rescue.

Paragraph (9)(e)(A)(i) includes the specifics that the retrieval system must meet.

- g. Paragraph (9)(b)(B) addresses entry rescue.
  - i. Paragraph (9)(e)(B) requires that a rescue team be designated before an entrant can enter a permit space.

- ii. Paragraph (9)(e)(B)(ii)(I) requires that the employer ensure that the rescue team can efficiently rescue employees from permit spaces. Whether the rescue team is internal or external, the employer is still responsible. Factors include the nature of the space, the hazards of the space, the training of the rescue team, and the equipment used by the rescue team.
- iii. Paragraph (9)(e)(B)(ii)( II) requires that employers ensure that rescue teams have the appropriate equipment to rescue employees from permit spaces. The appropriate equipment is based on the nature of the hazards of the space, as well as the configuration of the space.

**INSPECTION AND CITATION GUIDANCE:** When the employer uses a **third party rescue provider**, compliance officers will identify and document how the employer identifies and evaluates the equipment used by that third party provider. When the employer does not have a process to assure that the rescue provider has the appropriate equipment, cite this paragraph.

When the employer uses **internal employees** for the rescue team, compliance officers will identify and document any deficiencies in the equipment provided to employees, cite this paragraph.

- iv. Paragraph (9)(e)(B)(iii) requires that rescue teams or rescue services need to be informed about the hazards of the spaces in which they may be called upon to perform a rescue.

**INSPECTION GUIDANCE:** Compliance officers will identify and document how the employer conveys this information to rescue teams. When the employer uses a third-party provider, compliance officers may contact that provider to help identify how this information is conveyed.

- v. Paragraph (9)(e)(B)(iv) requires that rescue teams or services have access to all spaces from which they may be called upon to perform a rescue. This is so that rescue teams or services can develop rescue plans from the spaces they may need to perform a rescue, and ensure that they can perform their practice rescue.
- vi. Paragraph (9)(e)(B)(v) requires that rescuers have all necessary personal protective equipment (PPE) and any other necessary equipment. The kinds of protective equipment are dictated by the nature of the configuration

and hazards of the space, as well as the methods used to eliminate or control those hazards. When ventilation is used to control atmospheric hazards, respiratory protection may not be necessary, but the adequacy of the ventilation must be re-evaluated, particularly in light of the fact that rescue is necessary because an entrant is unable to evacuate.

**INSPECTION AND CITATION GUIDANCE:**

Compliance officers must evaluate the PPE and equipment provided to rescue teams. Use the identified hazards of the permit spaces, the methods used to eliminate or control those hazards, the established rescue procedures, along with employer and employee interviews. Document deficiencies and cite this paragraph.

- vii. Paragraph (9)(e)(B)(vi) requires that rescue team personnel have the same training and proficiencies as entrants, attendants, and entry supervisors. An entry rescue is also an entry into a permit space and must be treated as an entry, although Oregon OSHA does not expect another permit to be filled out for rescue operations.
- viii. Paragraph (9)(e)(B)(vii) are the requirements for an employer who uses a third-party rescue service.
  - 1. Paragraph (9)(e)(B)(vii)(I) requires that the designated third-party is aware that they are the designated rescue service and agree to the responsibility of being the rescue service. Community response personnel can be the primary responder, but it is not for the employer to dictate that they will be the responder. It is the community responder's decision if that is a role they want to accept. Nothing in these rules is intended to compel a community emergency response organization, such as the local fire department, to accept the responsibility of being the primary rescue responders for any organization, unless they choose to do so.
  - 2. Paragraph (9)(e)(B)(vii)(II) requires that the employer ensures that the third-party is capable of performing all rescue operations. Review Appendix D of the rule for rescue service considerations.
  - 3. Paragraph (9)(e)(B)(vii)(III) requires that the employer ensure that the rescue team is knowledgeable in first aid and CPR, and at least

one member is certified. This paragraph does not require that the employer provide that training; they only must ensure that the rescue team is trained.

**INSPECTION AND CITATION GUIDANCE:** When employees of a third-party rescue service are not knowledgeable in first aid and CPR, or none of the employees hold a current certification in first aid or CPR, identify the process by which the employer using that service determined if those members had been trained. In cases where the employer failed to identify the training the team had received, cite this paragraph, and cite the third party employer under (9)(c).

9. ALTERNATE ENTRY – OAR 437-002-0146(10). This paragraph describes the means to enter a permit space without following the permit process.
  - a. Paragraph (10)(a)(A) allows entry into a permit space without the permit process when all hazards are eliminated. Eliminating hazards can include lockout, blanking or blinding, triple rinsing, or any other action that removes the hazards or ensures it does not exist within the space. There is a note that explains that ventilation is not a method of elimination.
  - b. Paragraph (10)(a)(B) allows entry into a permit space without the permit process when all physical hazards, if any, are eliminated and all atmospheric hazards are adequately controlled with continuous ventilation. The space remains a permit space but, under the circumstances described, a permit for each entry is not required.

**INSPECTION AND CITATION CRITERIA:** Compliance officers will identify the methods used to eliminate the hazards or eliminate the physical hazards and/or control the atmospheric hazards.

When hazard elimination is used, compliance officers will identify the means used to verify that the hazard has been eliminated. In most cases, the elimination of a hazard requires a specific action, such as using lockout on equipment. These methods also require verification that the means used to eliminate the hazard is successful. For example, the lockout process includes attempting to active the device to ensure the process worked.

Eliminating atmospheric hazards means removing the source of the hazard, such as chemicals or sludge, so that the atmospheric hazard cannot return without reintroducing those materials back

into the space. Simply ventilating and testing the atmosphere typically does not constitute elimination, as no action was taken to eliminate the hazard.

There can be spaces where atmospheric hazards may exist under particular circumstances, such as water intrusion or organic debris. Confirming that these conditions do not exist within the space, and verifying the absence of that hazard with atmospheric test equipment demonstrates that the hazard does not exist and is effectively eliminated, unless conditions change that can introduce an atmospheric hazard.

- c. There are certain circumstances when a hazardous atmosphere may be eliminated through natural ventilation. Spaces that sit unopened for months or even years can develop oxygen-deficient atmospheres over a long period of time. When opened, testing can demonstrate that opening the space to the ambient atmosphere was sufficient to return the oxygen levels within the space to normal. Under these circumstances, the low oxygen hazard is eliminated, as it will take months or years of the space being closed to create the hazard. When other sources exist, such as standing water and/or organic debris, or when opening the space is not sufficient to return the oxygen levels to ambient levels, the hazard is not eliminated and can only be controlled with continuous ventilation.

Natural draft ventilation can be used in lieu of forced-air ventilation as long as it is constant, consistent, and adequate to control all atmospheric hazards.

Certain methods to eliminate atmospheric hazards may introduce another atmospheric hazard. For example, a facility may triple-rinse a vessel and then introduce an inerting agent, like nitrogen. The original hazard is eliminated, but the new hazard must also be eliminated or adequately controlled in order for the vessel to be entered under the alternate entry process.

When the source of atmospheric hazards still exists within the space, continuous ventilation must be used regardless of the results of the initial monitoring.

When additional protective measures must be used to protect against the permit space hazards, the employer cannot use the alternate entry process and can only enter that space under the full permit process.

Deficiencies of paragraph (10)(a) will normally be grouped with the relevant requirements of paragraphs (5), (6), (7), (8), (9), and (11).

- d. Paragraph (10)(b) exception, addresses continuous systems.

Alternate entry cannot be used in conditions where the section of the space to be entered can't be isolated from the rest of the space, the hazards of the entire space cannot be eliminated and/or controlled, or an engulfment hazard cannot be eliminated. For example, the conditions in an active sanitary sewer can change very rapidly and the difficulty is ensuring that all hazards are eliminated and/or controlled within the system. Similarly, storm drains can be subject to flooding from upstream activity, and any entry under this section would need to account for how a release cannot occur for the duration of the entry.

- e. Paragraph (10)(d) requires the development and implementation of procedures to enter spaces with the alternate entry process. Subparagraphs (A) through (I) address the issues these procedures must address.

**INSPECTION AND CITATION GUIDANCE:** Alternate entry procedures are not required to be in writing. Compliance officers will assess these procedures through employer and employee interviews, using the elements of subparagraphs (A) through (I).

When the employer has not developed or implemented these procedures, or when there are deficiencies with the procedures, cite paragraph (10)(d). When the procedures do not include how to eliminate or control the hazards of the space as described in paragraph (10)(a), this citation will normally be grouped with paragraph (10)(a)(A) or (B) as well as the relevant requirements of paragraphs (5), (6), (7), (8), (9) and (11).

- f. Paragraph (10)(e) applies only when ventilation is used to control atmospheric hazards.
  - i. Paragraphs (10)(e)(A) and (B) require that the atmosphere be tested during the entry and that the testing be done only with calibrated direct-reading instruments.

**INSPECTION AND CITATION GUIDANCE:** Cite paragraph (7)(c) when the air monitoring equipment is not calibrated or bump-tested according to the manufacturer's instructions.

- ii. Paragraph (10)(e)(D) requires that the space be monitored continuously during the entry. Typically, the entrant will have the monitoring device with them during the entry. If that is not the case, the employer must explain how this will be accomplished.
  - iii. Paragraph (10)(e)(E) sets specific criteria for when the space must be evacuated, including the return of any atmospheric hazards, the failure of the testing or

ventilation equipment, or when a new hazard is introduced or conditions change within the space that would require a re-evaluation.

- g. Paragraph (10)(f) requires that entrants or their representatives have the opportunity to observe all activities in relation to the alternate entry process. While these activities are normally conducted by the entrant, if actions to eliminate or control the hazards of the space or verify that the hazards have been eliminated or controlled are done by someone else, the entrant still has the right to observe those actions.
- h. Paragraph (10)(g) requires that the entrant has the ability to communicate with the outside world. When there is an attendant or helper and voice communication is sufficient, no other communication equipment is necessary. When the employee is alone, whatever method is chosen must work while the employee is inside the space.
- i. Paragraph (10)(h) applies only if a space is evacuated. When the space is evacuated, the entry is terminated. It can only be re-entered through a full permit system or as a new entry with the conditions that necessitated the evacuation eliminated or adequately controlled (if the condition was an atmospheric hazard).
- j. Paragraph (10)(i) requires that the entry be documented, and subparagraphs (A) through (J) list the items that must be documented. These items also appear on a permit and a permit form can be used to document an alternate entry.

10. TRAINING – OAR 437-002-0146(11). This paragraph addresses training for employees regarding permit spaces.

- a. Paragraph (11)(a) requires that all employees involved in permit space activities are trained to perform their duties. This includes employees identified as rescue personnel as described in paragraph (9) and employees who enter spaces under the alternate entry process as described in paragraph (10).
- b. Paragraph (11)(b) requires that the employer ensure that employees are proficient in their assigned duties.

**INSPECTION AND CITATION GUIDANCE:** Compliance officers will evaluate the mechanism by which employers assess employee understanding of their duties by interviewing employers and employees. This may also include a review of cancelled permits. Violations of the paragraph may also be grouped with violations of paragraph (8).

- c. Paragraph (11)(c) applies to awareness training. This training is for employees who work around permit spaces, but do not have

responsibilities associated with those spaces. Employers must ensure that employees who work in the area where permit spaces are present understand the permit program, how permit spaces are entered, how to recognize permit spaces. The purpose of this training is to give employees a basic understanding of the program and the basic tools to recognize permit spaces in their work areas.

The employer is not required to document awareness training. Awareness training does not apply to employees whose exposure is negligible, such as office workers who walk in a parking lot that has a sewer manhole or entering a building with a bag house 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). However, this training is required if those spaces are ever opened while other employees are in the area.

11. MUTLTI-EMPLOYER WORKSITES – OAR 437-002-0146(12).

This paragraph applies to situations where one or more employers enter a permit space owned or controlled by another employer.

Paragraph (12)(a)(A) requires that the employer who owns or controls the permit space provide information regarding that space and the hazards, along with any precautions that need to be taken, unless that employer falls within the exceptions for performing the initial evaluation listed in paragraph (4)(a)(A).

12. RECORDS – OAR 437-002-0146(13). This paragraph requires that all permits are kept for at least one year after they are cancelled at the end of the permit entry. This is 12 months from the end of the entry.

**INSPECTION PROCEDURES:**

The following guidelines must be used to determine when to evaluate an employer's permit space program. Any compliance officer who is familiar with the standard and with this inspection policy may evaluate an employer's permit space program.

**Note:** Appendix B of this instruction is intended only as an aid for compliance officers and is not intended to be the sole basis for evaluating an employer's permit space program.

1. Unprogrammed Inspections: A comprehensive permit space program review will be a part of all unprogrammed inspections when confined space hazards are the subject of the complaint, referral, or initiating event.

When confined space hazards are not the subject of the complaint, referral, or initiating event, the permit space

program will be evaluated if the compliance officer identifies potential permit required confined space hazards. Ensure the employer and the employee representatives are advised when expanding the scope of an inspection.

2. Programmed inspections: A permit space program review will be part of comprehensive programmed inspections in any workplace where confined spaces exist. When a review is not done and confined spaces are known to exist in the workplace, the basis for the decision not to review will be noted in the case file.

**EFFECTIVE**

**DATE:**

This directive is effective immediately and will remain in effect until cancelled or superseded.

**History:** Issued 4-2-1981 Revised 7-17-2013 and 12-31-2014

**APPENDIX A**  
**PERMIT REQUIRED CONFINED SPACE ENTRY BY**  
**COMPLIANCE OFFICERS**  
**RESERVED**

At this time it is Oregon OSHA's policy that compliance officers will not enter permit required confined spaces.

## APPENDIX B

**This appendix has been included for general guidance only. It is not intended to direct the compliance officer's investigation or restrict the manner in which an employer's program is evaluated.**

### Permit Space Program Evaluation Considerations

#### INITIAL INFORMATION

- A. To what degree is the employer familiar with the standard and its contents? (Does the employer understand the key terms defined in the standard?)
- B. Request identification of those confined spaces evaluated and determined to require a permit, their locations, along with any documentation as to the permit space determination (memos, contract, report, etc.) and when the determination was made.

How does the employer meet the standard's requirement to review existing confined spaces for hazards that would convert them to permit spaces?

- C. Evaluate the process by which the employer identified any permit spaces, as follows:

**Note:** If an employer elects not to have its employees enter the confined space, a thorough evaluation of each space is not required.

1. Analyze the evaluation method and equipment used.
  - a. Was the determination made based upon historical data? If so, how reliable is that data?
  - b. Were the substance's hazards appropriately identified? All the hazards that can affect the safety and health of entrant must be determined, for example, gasoline is flammable but also contains benzene, which can be a health hazard.
  - c. Were the sampling methods or testing equipment appropriate for each substance?
  - d. Are mechanical and other non-atmospheric hazards, for the space or for the work to be performed in the space, addressed in the employer's evaluation method?

2. If the employer has arranged to have some other party (consultant or insurance carrier) evaluate the workplace, request a copy of the report presented to the employer, in order to assess the adequacy of the evaluation.
  3. Where there are permit spaces, what is the employer's policy with regard to employee entry?
- D. Are contractors performing permit space entries, if so, determine who they are and their work location.
1. Are these spaces multi-employer work sites?
  2. Did the contractor develop the permit space program in use? If not, whose program is being used or followed by the contractor? If so, how was their program coordinated with the host employer's permit space program?
  3. What measures have the employers taken to facilitate coordination and safety for multi-employer worksites? Examples of these measures might be communications systems, postings, assignments of liaison personnel or contractual agreements.

## **TRAINING**

- A. Affected employees:
1. What is the employer's policy with regard to employee entry and how are the employees informed of the policy?
  2. How are the affected employees identified? Who are they?
  3. How are affected employees informed of the employer's policies on permit space entry?
  4. How and when are new or reassigned employees informed of the existence and locations of permit spaces?
  5. Is the employer's permit space program used in employee training?
- B. The trainer:
1. Who are the individuals conducting the training and what training are they performing?
  2. For the training being presented, is the trainer knowledgeable about the subject matter in general and with the particular permit space situations at the workplace?
- C. The employer:
1. How is the training certified and documented?

2. How does the employer establish employee proficiency in the duties required by the permit space program?
3. What criteria does the employer use to decide if retraining is necessary?

## **PERMIT SPACE PROGRAM**

- A. Where possible, obtain a copy of the employer's written policies and procedures.
  1. Where is the written program normally kept and how is it made available to employees?
  2. Who is charge of the permit space program?
  3. Does the written program provide for compliance with the minimum elements listed in Paragraph (5)(b) of the standard?
- B. Does the program provide appropriately for employee input regarding the classification of spaces, the identification of hazards, training, the adequacy of entry procedures and precautions, and other areas where employee knowledge and experience would be pertinent?

## **ENTRY PROCEDURES**

- A. Obtain a list or determine a representative number of employees who have been assigned the duties of "authorized entrant," "attendant," "entry supervisor," and determine who is authorizing entry. During the inspection, interview a sufficient number of employees in each category to verify the training and the permit-space program's effectiveness.
- B. Determine the name, position, and training of the person(s) responsible for authorizing and/or in charge of entry under the permit system.
- C. Are alternate entry procedures employed for permit space entry?
  1. Review all data relating to each entry undertaken. The following are some examples of questions the CSHO may consider useful:
    - a. What is the size (volume) and configuration of the permit space?
    - b. How have the physical properties (molecular weight, vapor pressure, etc.) of the atmospheric hazards been considered in the design of the ventilation plan?
    - c. What is the capacity of each piece of ventilation equipment being used? Does capacity match requirements of the spaces?

- d. What is the air exchange rate required to maintain acceptable entry conditions?
  - e. What are the procedures the employer uses to determine acceptable entry conditions?
  - f. Where is the data maintained?
  - g. Do the entrants know what the "safe for entry" conditions are and where the support data is maintained?
  - h. How did the employer demonstrate that continuous force air ventilation would maintain the permit space safe for entry?
  - i. How did the employer collect and document the monitoring and inspection data used to support application of alternate entry to permit space entry operations?
  - j. How does the employer make the documentation of determinations and supporting data available to permit space entrants?
  - k. How does the employer determine that the operations or activities being performed within the permit space (mucking, cleaning, etc.) do not contribute to the atmospheric hazard?
  - l. If employees needed to enter the permit space to obtain data, did the employer follow the permit entry procedures?
  - m. Ask to see the canceled permits.
2. Ask to see any documentation, if maintained (it is not required), from previous entries using the alternate procedures.
  3. Identify the equipment to be used for sampling and monitoring the permit space to comply with paragraph (11).
    - a. Determine if the equipment is being maintained and calibrated according to manufacturer's recommendations.
    - b. Have air sampling, monitoring plans and procedures been developed which take into consideration any sampling equipment limitations?
    - c. Do sampling plans include measuring exposure at the employee locations as well as other locations in the space?
  4. Who has the employer authorized to certify that the pre-entry measures required under alternate entry have been taken?
    - a. What is the certifier's knowledge with regard to the permit space being entered?

- b. How is the certification made available to each employee entering the space?
- c. What procedures are used to inform entrants of entry conditions?
- d. How does the employer notify entrants of the need to exit the space when a hazardous atmosphere is detected?

## **RESCUE**

Review the employer's policy for determining when non-entry rescue procedures will or will not be employed. If non-entry rescue has been ruled out, ascertain which of the entry rescue options has been implemented.

### **A. Non-entry Rescue**

- 1. If non-entry rescue is being practiced, what equipment is used?
- 2. If non-entry rescue is not being practiced, what is the employer's documentation of reasons for not using it?
- 3. Is there a policy to review each space to be entered to determine whether to employ or not to employ non-entry rescue?

### **B. On-site rescue services.**

- 1. Determine the number of employees assigned to perform rescue, verify training for each member of the rescue service and find out which of them have a current first-aid and CPR certification.
- 2. Review the rescue procedures as they compare to the written permit program.
- 3. Note the work shift of the rescuers and compare them to the permit entry times.

### **C. Non-host employer rescue employees (off-site)**

- 1. Who is the off-site rescue service and where are they located?
- 2. How is the arrangement between the employer and the rescue service provider documented? (Contract, Letter of Agreement)
- 3. How did the employer decide, based on the confined space hazard, that the off-site rescue service's response time, experience, and training is adequate?
- 4. Have the rescue service training requirements been met?
- 5. What method is used to summon rescuers?

6. Are rescue services on-call or on-site where permit space entry is underway?
7. What is the response time for rescue service?
8. How does the employer verify that the rescue service will be available during the time of worker entry?

C. Combinations

1. If combination of on-site and off-site rescue services are employed:
  - a. If the rescue plan is written, obtain a copy of the rescue plan that describes the roles of each party.
  - b. Verify that both employers' employees have trained together as a team.
  - c. Determine if, taken together, the rescue services enable the employer to comply with requirements for rescue services.