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Exempt Action Final Regulation Agency Background Document

Agency name	Virginia Department of Labor and Industry/Safety and Health Codes Board
Virginia Administrative Code (VAC) citation(s)	<p>Federal-Identical Standards, Part 1926, Construction Industry:</p> <p><u>Subpart AA – Confined Spaces in Construction -</u> 16 VAC25-175-1926.1200 through 16VAC25-175-1926.1213, Confined Spaces in Construction, §§1926.1200 - 1926.1213;</p> <p><u>Subpart C – General Safety and Health Provisions -</u> 16VAC25-175-1926.21, Safety Training and Education, §1926.21;</p> <p><u>Subpart V–Electric Power Transmission and Distribution -</u> 16VAC25-175-1926.953, Enclosed Spaces, §1926.953; 16VAC25-175-1926.968, Definitions, §1926.968;</p> <p><u>Subpart P – Excavations -</u> 16VAC25-175-1926.650 through 16VAC25-175-1926.652, Excavations, §§1926.650 - 1926.652;</p> <p><u>Subpart S – Underground Construction, Caissons, Cofferdams and Compressed Air -</u> 16VAC25-175-1926.800, Underground Construction, §1926.800;</p> <p><u>Virginia Unique Regulations -</u> 16VAC25-140-10, <i>et seq.</i>, Virginia Confined Space Standard for the Construction Industry; 16VAC25-150-10, <i>et seq.</i>, Virginia Underground Construction, Construction Industry; and 16VAC25-170-10, Virginia Excavation Standard, Construction Industry, <i>et seq.</i></p>
Regulation title(s)	Confined Spaces in Construction and Other Related Provisions
Action title	Final Rule for Confined Spaces in Construction and Other Related Provisions
Final agency action date	October 29, 2015
Date this document prepared	November 2, 2015

When a regulatory action is exempt from executive branch review pursuant to § 2.2-4002 or § 2.2-4006 of the Virginia Administrative Process Act (APA) or an agency's basic statute, the agency is not required, however, is encouraged to provide information to the public on the Regulatory Town Hall using this form. Note: While posting this form on the Town Hall is optional, the agency must comply with requirements of the Virginia Register Act, Executive Orders 17 (2014) and 58 (1999), and the *Virginia Register Form, Style, and Procedure Manual*.

Brief summary

Please provide a brief summary of the proposed new regulation, proposed amendments to the existing regulation, or the regulation proposed to be repealed. Alert the reader to all substantive matters or changes. If applicable, generally describe the existing regulation.

I. Summary of Board Action

The Safety and Health Codes Board adopted federal OSHA's Final Rule for Confined Spaces in Construction, Subpart AA, 29 CFR Part 1926.1200 – 1926.1213, and Revisions to Other Related Provisions, as published on May 4, 2015 in *80 FR 25365*. Concurrently, the Board also repealed the Virginia Unique Standard for Confined Spaces in Construction, 16VAC25-140-10, *et seq.*, which was supplanted by the new federal Confined Spaces in Construction standard.

In addition, the Board also repealed the following existing unique Virginia standards which were impacted by the above change:

- § Virginia Underground Construction Standard, 16VAC25-150-10, *et seq.*, and
- § Virginia Excavation Standard, Construction Industry, 16VAC25-170-10, *et seq.*

Each of these two existing unique state standards mandated that the requirements of the Virginia Confined Space Standard for the Construction Industry that are more stringent than corresponding requirements each contains shall apply to underground construction areas which also meet the definition of "confined space" in construction.

The Board also adopted the existing federal identical versions of the Underground Construction Standard, 29 CFR Part 1926.800 (16VAC25-175-1926.800), and the Excavation Standard, 29 CFR Part 1926.650 (16VAC25-175-1926.650), made necessary by the repeal of the unique Virginia Confined Space Standard so as to enable the VOSH Program to continue to meet the federal requirement to remain "as effective as" the federal enforcement program itself.

A. General

The new Construction Confined Spaces standard requires employers to ensure that their workers are informed about the existence, location, and dangers posed by each permit-required confined space, and that they may not enter such spaces without authorization.

Like the definition in the General Industry standard, a "confined space" is any space that has limited means of entry and/or exit, is large enough for a worker to enter it, and is

not intended for regular/continuous occupancy. Such examples would include: the need to use a ladder, a doorway that is too small to exit while walking upright, no ventilation or lighting, and lacks sufficient room to work or maneuver about.

Additionally, a space may also be a permit-required confined space if it has a hazardous atmosphere, has the potential for engulfment or suffocation, has a layout that might trap a worker through converging walls or a sloped floor, or contains any other recognized serious safety or health hazard.

Employers shall train workers involved in permit-required confined space operations so that they can perform their duties safely and understand the hazards in permit spaces and the methods used to isolate, control or protect workers from these hazards. Workers not authorized to perform entry rescues shall be trained on the dangers of attempting such rescues.

The final rule is similar in content to the general industry confined spaces standard, §1910.146, and reflects that standard's organization, language, and most substantive requirements. Some of the aspects of construction industry activity that are not present in general industry work are addressed by modifications, including:

- § information exchange requirements to ensure that multiple employers have shared vital safety information;
- § addressing the heightened need, on constantly evolving construction worksites for communication, worksite evaluation; and
- § training for confined spaces in construction.

Due to the differences between construction work and general industry, there are several regulatory provisions in this new construction standard which differ from the existing general industry standard. Provisions in the new construction standard:

- § address construction-specific issues;
- § account for advancements in technology and equipment that allow for continuous monitoring of hazards, and improve the enforceability of the requirements;
- § address concerns raised by the regulated community during the federal OSHA comment period and at the federal OSHA public hearing; or
- § reflect improvements in clarity of language and enforcement considerations that have been addressed in interpretations of the general industry standard.

Section 1926.1201(a) makes it clear that the focus of the final standard is on the type of work performed, and whether such work could produce, and expose employees to, confined space hazards.

There are two important points in the new final rule that also are true for the general industry standard:

- § All employers engaged in construction have a duty to ensure that their employees do not enter a confined space except in accordance with the requirements of the standard, and the presence of a confined space on the worksite triggers this duty rather than the type or work the employer is performing;
- § Certain critical components of this standard, such as information sharing and coordination of work, that apply to certain employers who, regardless of whether their employees are authorized to enter a confined space, have information necessary for the protection of employees working inside confined spaces, or are engaged in activities that could, either alone or in conjunction with activities inside the confined space, endanger the employees working inside a confined space.

B. Types of Confined Spaces That May Be Found on Construction Sites

- § Manholes, i.e., sewer, storm drain, electrical, communication, or other utility;
- § Water mains; lift stations;
- § Tanks, i.e., fuel, chemical, water or other liquid, solid or gas;
- § Pits, i.e., elevator, escalator pump, valve or other equipment;
- § Bins; boilers; incinerators; scrubbers; concrete pier columns; transformer vaults; heating, ventilation, and air conditioning (HVAC) ducts;
- § Precast concrete and other pre-formed manhole units;
- § Drilled shafts; enclosed beams; vessels; digesters; cesspools; silos;
- § Air receivers; sludge gates; air preheaters; turbines; chillers; and
- § Bag houses; mixers/reactors; crawl spaces; attics; and basements, before steps are installed.

C. Common Hazards

- § Acute atmospheric (respirable) hazards, e.g., hydrogen sulfide, carbon monoxide, low oxygen, excessive oxygen, and other toxic gases and particulates (not chronic or long term, such as lead or asbestos exposure);
- § Explosive hazards, including flammable gases in concentrations above 10% of the lower explosive limit (LEL), combustible dusts, and other explosive/flammable materials; and
- § Physical hazards, including tripping hazards, fall hazards, struck-by hazards, and electrical hazards.

D. Activities Excluded from Confined Spaces in Construction Standard

The Confined Spaces standard applies to construction work performed in confined spaces, except for certain construction activities that are subject to confined space provisions in other OSHA construction standards. The activities excluded from this standard are:

- § Diving – regulation by Part 1926, Subpart Y;

- § Excavations – regulation by Part 1926, Subpart P; and
- § Underground Construction, Caissons, Cofferdams and Compressed Air – regulated by Part 1926, Subpart S.

III. New Requirements of the Confined Spaces in Construction Standard

- A. The final standard for confined spaces in construction bears important distinctions from the general industry standard due to:
1. It provides advances in safety systems, for example, monitoring procedures that detect increases in atmospheric hazards, as required in §1926.1204(c)(5);
 2. Unique conditions associated with construction, such as greater emphasis on assessing hazards at sewer worksites and the need for information exchange in a complex multi-employer environment;
 3. It allows greater flexibility for employers, such as permitting employers to enter a confined space under the alternative procedures, specified by final §1926.1203(e), if they isolate physical hazards within a space, or permitting employers to suspend a permit, rather than cancelling it, in response to certain temporary changes in conditions; and
 4. Improvements in language for clarity and enforcement considerations.
- B. The new final rule contains five (5) new requirements for confined spaces in construction, which include:
1. It provides more detailed provisions requiring coordinated activities when there are multiple employers at the worksite. This will ensure hazards are not introduced into a confined space by workers performing tasks outside the space. An example would be a generator running near the entrance of a confined space causing a buildup of carbon monoxide within the space.
 2. Before work begins, it requires a competent person to evaluate the work site and identify confined spaces, including permit spaces. When there are changes in use or configuration to the non-permit space, the competent person shall also reevaluate the space and reclassify it, if necessary.
 3. It requires continuous atmospheric monitoring whenever possible.
 4. It requires continuous monitoring of engulfment hazards. For example, when workers are performing work in a storm sewer, a storm upstream from the workers could cause flash flooding. An electronic sensor or observer posted upstream from the work site could alert workers in the space at the first sign of the hazard, giving the workers time to evacuate the space safely.
 5. It allows for the suspension of a permit, instead of cancellation, in the event of changes from the entry conditions list on the permit or an unexpected event requiring evacuation of the space. The space shall be returned to the entry conditions listed on the permit before re-entry.

- C. OSHA also added provisions to the new rule that clarify existing requirements in the General Industry standard, §1910.146. These include:
1. “Alternate Procedures” - Requiring that employers who direct workers to enter a space without using a complete permit system prevent workers’ exposure to physical hazards through elimination of the hazard or isolation methods, such as lockout/tagout;
 2. Requiring that employers who are relying on local emergency services for emergency services arrange for responders to give the employer advance notice if they will be unable to respond for a period of time because they are responding to another emergency, attending department-wide training, etc.; and
 3. Requiring employers to provide training in a language and vocabulary that the worker understands.
- D. Several important defined terms are added in Section 1926.1202:
- § “Entry employer” directs workers to enter a space and informs the controlling contractor of the program followed and hazards encountered in permit spaces;
 - § “Controlling contractor”, i.e., the general contractor, has overall responsibility for construction at the worksite, and is responsible for coordinating entry operations when there is more than one entry employer, and when other activities on the site could foreseeably result in a hazard in the permit space. The controlling contractor is required to pass information, if available, about permit confined spaces at the worksite;
 - § “Host employer” owns or manages the property where the construction work is taking place. Where the host employer has information about permit space hazards on the site, it shall share that information with the controlling contractor, who is then responsible for sharing it with the other employers on the site. This would exclude homeowners where there are no employees;
 - § “Entry” – similar to the general industry standard at 1910.146, but regardless of the events or actions that caused the entry, such as the employee falling into the confined space.
 - § “Entry rescue” was added to clarify the differences in the types of rescue employers can use.

IV. General Requirements for Confined Spaces

A. General Requirements for Confined Spaces include the following:

1. Site evaluation which is a two-step process:
 - a. Before work begins, each employer shall ensure that a competent person identifies all confined spaces and permit-required confined spaces.

- (1) The competent person shall evaluate whether there are any actual or potential hazards in the confined space; and
 - (2) The competent person shall identify any confined space that is a permit-required confined space through consideration and evaluation of the space and requiring testing if necessary to assess the hazard(s).
- b. An employer identifying a permit space shall inform exposed employees by posting danger signs at or near the entry to permit spaces or by any other effective means
 - c. An employer who is directing employees to enter a permit space shall have a written permit space program.
 - d. An employer shall train all workers who are exposed to permit space hazards, including hazards of unauthorized rescue.

B. Section 1926.1204 - Permit Required Confined Space Written Program

A permit-required confined space program for entry employers shall be written and shall be available for inspection by employees or their representatives prior to and during entry operations and shall comply with §1926.1204. The Plan for safe entry operations, including procedures to:

1. Implement measures to prevent unauthorized entry
2. Identify hazards in permit spaces
3. Control atmospheric hazards
4. Address physical hazards
5. Prepare for air testing and monitoring
6. Control access into the space
7. Provide equipment (air testing, ventilation, communications, PPE, lighting, etc.)
8. Provide attendants for permit spaces
9. Coordinate entry operations for multiple employers
10. Have procedures for rescue
11. Alternate procedures for entry, if physical hazards within a space are isolated

C. Sections 1926.1205/1926.1206 - Permitting Process

Before entry is authorized, each entry employer shall document the completion of measures required by §1926.1204(c) by preparing a written entry permit which shall identify:

1. Permit space to be entered
2. Purpose of the entry
3. Date and authorized duration of the entry permit
4. Authorized entrants within the permit space

5. Means of detecting an increase in atmospheric hazard levels
6. Name and signature of supervisor authorizing entry
7. Known hazards in the space
8. Measures taken to isolate permit spaces and to eliminate or control space hazards
9. Acceptable entry conditions
10. Test results, date and time of test(s) and tester's signature or initials
11. Name and telephone numbers of rescue and emergency services and means to be used to contact them;
12. Communication procedures and equipment to maintain contact during entry; and
13. Special equipment and procedures, including PPE and alarm systems

The Entry Supervisor shall cancel entry permits and keep all canceled entry permits for at least one year.

D. Section 1926.1207 – Training

Before the initial work assignment begins, the employer shall provide training, at no cost to each employee whose work is regulated by this standard, and ensure that the employee understands such training by providing the training in both a language and vocabulary the employee can understand. The training shall establish employee proficiency in the duties required. The employer shall maintain training records with pertinent information, i.e., names of both employees and trainers and the dates of training.

E. Entrants, Attendants, and Entry

There are three categories of workers who have specific duties whenever work is performed in a permit space:

- § **“Authorized entrant”** – authorized by the entry supervisor to enter a permit space; and must know space hazards; use appropriate personal protective equipment; shall stay in communication with attendants to monitor entrant's status; and shall alert attendant when a prohibited condition exists. **Section 1926.1208**
- § **“Attendant”** – a worker stationed outside one or more permit spaces who monitors conditions within the space(s) and prevents unauthorized entry. Attendant shall remain outside the permit space during entry operations; perform non-entry rescues; know existing and potential hazards; maintain communication with workers entering the permit space; assess conditions inside and outside the permit space; summon rescue and other services during an emergency; ensure unauthorized people stay away from the permit space; and perform no other duties that interfere with the attendant's primary duties. **Section 1926.1209**
- § **“Entry supervisor”** – qualified person, i.e., employer, foreman, or crew chief, who is responsible for overseeing entry operations. He must know space hazards; verify entry conditions are satisfied; terminate entry and cancel or suspend permits when entry operations are completed; verify that rescue services are available; take

appropriate measures to remove unauthorized entrants; and ensure that entry operation remain consistent with the entry permit. **Section 1926.1210**

F. Section 1926.1211 - Rescue and Emergency Services

The employer of the members of the designated rescue team whether entry or non-entry, shall ensure that the team members have received the training required for authorized entrants and also have been trained to perform their assigned rescue duties. All rescuers shall be trained in first aid and CPR.

V. Other VOSH Standards Impacted By Adoption of the New Confined Space Standard for the Construction Industry and Required Action

There are impacts or revisions to other existing standards of the Board which will be necessitated by the Board's adoption of the new Subpart AA for Confined Spaces in Construction.

A. Existing Federal Identical Standards Impacted

Federal OSHA removed paragraph (b)(6) of §1926.21, Safety Training and Education, which requires all employees entering into confined or enclosed spaces to be instructed by their employer as to the nature of the hazards involved, the necessary precautions to be taken, and in the use of the protective and emergency equipment required.

OSHA also amended Subpart V of Part 1926 – Power Transmission and Distribution – which governs construction work involving power transmission, generation, and distribution, to replace references to the general industry confined spaces standard with references to this final construction rule, because OSHA specifically tailored this final rule to construction work, making the confined spaces in this construction rule more appropriate than the general industry standard for construction work addressed by Subpart V.

OSHA amended paragraphs §1926.953(a) and (g) of Subpart V by replacing each reference to “§1910.146” with a reference to “Subpart AA”, so that the appropriate construction standards apply, rather than a general industry standard. Additionally, OSHA added a sentence to paragraph 1926.953(a) to clarify that employers may comply with the requirements of §1926.953 “in lieu of” most of the requirements in new Subpart AA when the entry into the enclosed space is a routine entry for Subpart V work and there is no hazardous atmosphere in the space. The purpose of this clarifying sentence is to help avoid any employer confusion as to which standard applied.

The note to the definition of “enclosed space” in paragraph (x) of §1910.269, Electric Power Generation, Transmission, and Distribution, states that enclosed spaces expected to contain a hazardous atmosphere meet the definition of “permit spaces” in §1910.146, and entry into them shall conform to that standard. In §1926.968, Definitions, federal OSHA added a note to the definition of “enclosed space” that corresponds to the note in paragraph §1910.269(x), replacing the reference to “§1910.146” with a reference to “Subpart AA.”

B. Existing Virginia Unique Standards Impacted

1. The adoption of the new comprehensive final rule for Confined Spaces in Construction will necessitate the repeal of the unique Virginia Confined Space Standard in Construction, 16VAC25-140-10, et seq., because it is being replaced by the new federal rule.
2. This repeal will then necessitate the repeal of two other standards: the unique Virginia Underground Construction Standard, 16VAC25-150-10, et seq., and the unique Virginia Excavation Standard, 16VAC25-170-10, et seq., as these two standards reference Virginia Confined Space in Construction Standard being repealed.
3. The repeal of the two other Virginia standards, noted above, will then necessitate the adoption of federal identical versions of the Underground Construction Standard, 29 CFR Part 1926.800, and the Excavation Standard, 29 CFR Part 1926.650 in order for the VOSH Program to retain its “as effective as” status required by the federal OSHA enforcement program.

Statement of final agency action

Please provide a statement of the final action taken by the agency including: 1) the date the action was taken; 2) the name of the agency taking the action; and 3) the title of the regulation.

On October 29, 2015, the Safety and Health Codes Board adopted federal OSHA’s Final Rule for Confined Spaces in Construction, 29 CFR Part 1926, Subpart AA, §§1926.1200 through 1926.1213, and Revisions to Other Related Provisions: 29 CFR Part 1926.21, Safety Training and Education, 29 CFR Part 1926.953, Enclosed Spaces; and 29 CFR Part 1926.968, Definitions.

The Board also adopted the existing federal-identical construction industry standards for: Excavations, 29 CFR Part 1926.650 through 1926.652; and Underground Construction, 29 CFR Part 1926.800.

Additionally, as a necessary part of the above action, the Board **repealed** the following:

Virginia Confined Space Standard for the Construction Industry, 16VAC25-140-10, *et seq.*;
Virginia Underground Construction, Construction Industry, 16VAC25-150-10, *et seq.*; and
Virginia Excavation Standard, Construction Industry, 16VAC25-170-10, *et seq.*

Family impact

Please assess the impact of this regulatory action on the institution of the family and family stability including to what extent the regulatory action will: 1) strengthen or erode the authority and rights of parents in the education, nurturing, and supervision of their children; 2) encourage or discourage economic self-sufficiency, self-pride, and the assumption of responsibility for oneself, one's spouse, and one's children and/or elderly parents; 3) strengthen or erode the marital commitment; and 4) increase or decrease disposable family income.

This regulatory action will have no impact on the institution of the family and family stability. To access the Final Rule for Confined Spaces for Construction, please refer to:

http://www.osha.gov/FedReg_osha_pdf/FED20150504.pdf

Part 1926

Subpart AA, CONFINED SPACES IN CONSTRUCTION, §§1926.1200 – 1926.1213; Final Rule; and Other Related Provisions:

Subpart C – GENERAL SAFETY AND HEALTH PROVISIONS – §1926.21, Safety Training and Education

Subpart V, §1926.953, Enclosed Spaces; and §1926.968, Definitions

**Subpart P - EXCAVATIONS
§§1926.650 through 1926.652**

Subpart S – UNDERGROUND CONSTRUCTION, CAISSONS, COFFERDAMS AND COMPRESSED AIR - §1926.800, Underground Construction

As Adopted by the

Safety and Health Codes Board

Date: October 29, 2015



VIRGINIA OCCUPATIONAL SAFETY AND HEALTH PROGRAM

VIRGINIA DEPARTMENT OF LABOR AND INDUSTRY

Effective Date: January 1, 2016

16VAC25-175-1926.1200 – 1926.1213
16VAC25-175-1926.21;
16VAC25-175-1926.953,
16VAC25-175-1926.968,
16VAC25-175-1926.650 – 1926.652
16VAC25-175-1926.800

When the regulations, as set forth in the afore cited regulations, are applied to the Commissioner of the Department of Labor and Industry and/or to Virginia employers, the following federal terms shall be considered to read as below:

Federal Terms

VOSH Equivalent

29 CFR

VOSH Standard

Assistant Secretary

Commissioner of Labor and Industry

Agency

Department

August 3, 2015

January 1, 2016

the enclosed space do not endanger the life of an entrant or interfere with an entrant's escape from the space, this section applies in lieu of the permit-space entry requirements contained in §§ 1926.1204 through 926.1211.

* * * * *

(g) *Hazardous atmosphere.* Employees may not enter any enclosed space while it contains a hazardous atmosphere, unless the entry conforms to the confined spaces in construction standard in subpart AA of this part.

* * * * *

Note to § 1926.953. Entries into enclosed spaces conducted in accordance with the permit space entry requirements of subpart AA of this part are considered as complying with this section.

■ 5. Amend § 1926.968 by adding a note to the definition for "Enclosed spaces" to read as follows:

§ 1926.968 Definitions.

* * * * *

Enclosed space. * * *

Note to the definition of "Enclosed space". The Occupational Safety and Health Administration does not consider spaces that are enclosed but not designed for employee entry under normal operating conditions to be enclosed spaces for the purposes of this subpart. Similarly, the Occupational Safety and Health Administration does not consider spaces that are enclosed and that are expected to contain a hazardous atmosphere to be enclosed spaces for the purposes of this subpart. Such spaces meet the definition of permit spaces in subpart AA of this part, and entry into them must conform to that standard.

* * * * *

■ 6. Subpart AA is added to read as follows:

Subpart AA—Confined Spaces in Construction

Sec.	
1926.1200	[Reserved]
1926.1201	Scope.
1926.1202	Definitions.
1926.1203	General requirements.
1926.1204	Permit-required confined space program.
1926.1205	Permitting process.
1926.1206	Entry permit.
1926.1207	Training.
1926.1208	Duties of authorized entrants.
1926.1209	Duties of attendants.
1926.1210	Duties of entry supervisors.
1926.1211	Rescue and emergency services.
1926.1212	Employee participation.
1926.1213	Provision of documents to Secretary.

Amendments to Standards

For the reasons stated in the preamble of this rule, the Agency is amending 29 CFR part 1926 as follows:

PART 1926—[AMENDED]

Subpart C—General Safety and Health Provisions

§ 1926.21 [Amended]

■ 2. In § 1926.21, paragraph (b)(6) is removed.

Subpart V—Electric Power Transmission and Distribution

■ 3. The authority citation for subpart V of part 1926 continues to read as follows:

Authority: 40 U.S.C. 3701 *et seq.*; 29 U.S.C. 653, 655, 657; Secretary of Labor's Order No. 1-2012 (77 FR 3912); and 29 CFR part 1911.

■ 4. Amend § 1926.953 by revising paragraphs (a) and (g) and the note at the end of the section to read as follows:

§ 1926.953 Enclosed spaces.

(a) *General.* This section covers enclosed spaces that may be entered by employees. It does not apply to vented vaults if the employer makes a determination that the ventilation system is operating to protect employees before they enter the space. This section applies to routine entry into enclosed spaces. If, after the employer takes the precautions given in this section and in § 1926.965, the hazards remaining in the enclosed space endanger the life of an entrant or could interfere with an entrant's escape from the space, then entry into the enclosed space must meet the permit space entry requirements of subpart AA of this part. For routine entries where the hazards remaining in

§ 1926.1200 [Reserved]

§ 1926.1201 Scope.

(a) This standard sets forth requirements for practices and procedures to protect employees engaged in construction activities at a worksite with one or more confined spaces, subject to the exceptions in paragraph (b) of this section.

Note to paragraph (a). Examples of locations where confined spaces may occur include, but are not limited to, the following: Bins; boilers; pits (such as elevator, escalator, pump, valve or other equipment); manholes (such as sewer, storm drain, electrical, communication, or other utility); tanks (such as fuel, chemical, water, or other liquid, solid or gas); incinerators; scrubbers; concrete pier columns; sewers; transformer vaults; heating, ventilation, and air-conditioning (HVAC) ducts; storm drains; water mains; precast concrete and other pre-formed manhole units; drilled shafts; enclosed beams; vessels; digesters; lift stations; cesspools; silos; air receivers; sludge gates; air preheaters; step up transformers; turbines; chillers; bag houses; and/or mixers/reactors.

(b) *Exceptions.* This standard does not apply to:

(1) Construction work regulated by subpart P of this part (Excavations).

(2) Construction work regulated by subpart S of this part (Underground Construction, Caissons, Cofferdams and Compressed Air).

(3) Construction work regulated by subpart Y of this part (Diving).

(c) Where this standard applies and there is a provision that addresses a confined space hazard in another applicable OSHA standard, the employer must comply with both that requirement and the applicable provisions of this standard.

§ 1926.1202 Definitions.

The following terms are defined for the purposes of this subpart only:

Acceptable entry conditions means the conditions that must exist in a permit space, before an employee may enter that space, to ensure that employees can safely enter into, and safely work within, the space.

Attendant means an individual stationed outside one or more permit spaces who assesses the status of authorized entrants and who must perform the duties specified in § 1926.1209.

Authorized entrant means an employee who is authorized by the entry supervisor to enter a permit space.

Barrier means a physical obstruction that blocks or limits access.

Blanking or blinding means the absolute closure of a pipe, line, or duct by the fastening of a solid plate (such as a spectacle blind or a skillet blind) that

completely covers the bore and that is capable of withstanding the maximum pressure of the pipe, line, or duct with no leakage beyond the plate.

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

Confined space means a space that:

- (1) Is large enough and so configured that an employee can bodily enter it;
- (2) Has limited or restricted means for entry and exit; and
- (3) Is not designed for continuous employee occupancy.

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

Controlling Contractor is the employer that has overall responsibility for construction at the worksite.

Note to the definition of "Controlling Contractor". If the controlling contractor owns or manages the property, then it is both a controlling employer and a host employer.

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

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

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

Engulfment means the surrounding and effective capture of a person by a liquid or finely divided (flowable) solid substance that can be aspirated to cause death by filling or plugging the respiratory system or that can exert enough force on the body to cause death by strangulation, constriction, crushing, or suffocation.

Entry means the action by which any part of a person passes through an opening into a permit-required confined

space. Entry includes ensuing work activities in that space and is considered to have occurred as soon as any part of the entrant's body breaks the plane of an opening into the space, whether or not such action is intentional or any work activities are actually performed in the space.

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

Note to the definition of "Entry Employer". An employer cannot avoid the duties of the standard merely by refusing to decide whether its employees will enter a permit space, and OSHA will consider the failure to so decide to be an implicit decision to allow employees to enter those spaces if they are working in the proximity of the space.

Entry permit (permit) means the written or printed document that is provided by the employer who designated the space a permit space to allow and control entry into a permit space and that contains the information specified in § 1926.1206.

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

Entry supervisor means the qualified person (such as the employer, foreman, or crew chief) responsible for determining if acceptable entry conditions are present at a permit space where entry is planned, for authorizing entry and overseeing entry operations, and for terminating entry as required by this standard.

Note to the definition of "Entry supervisor". An entry supervisor also may serve as an attendant or as an authorized entrant, as long as that person is trained and equipped as required by this standard for each role he or she fills. Also, the duties of entry supervisor may be passed from one individual to another during the course of an entry operation.

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

Hazardous atmosphere means an atmosphere that may expose employees to the risk of death, incapacitation, impairment of ability to self-rescue (that is, escape unaided from a permit space), injury, or acute illness from one or more of the following causes:

- (1) Flammable gas, vapor, or mist in excess of 10 percent of its lower flammable limit (LFL);
- (2) Airborne combustible dust at a concentration that meets or exceeds its LFL;

Note to paragraph (2) of the definition of "Hazardous atmosphere". This concentration may be approximated as a condition in which the combustible dust obscures vision at a distance of 5 feet (1.52 meters) or less.

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(3) Atmospheric oxygen concentration below 19.5 percent or above 23.5 percent;

(4) Atmospheric concentration of any substance for which a dose or a permissible exposure limit is published in subpart D of this part (Occupational Health and Environmental Control), or in subpart Z of this part (Toxic and Hazardous Substances), and which could result in employee exposure in excess of its dose or permissible exposure limit;

Note to paragraph (4) of the definition of "Hazardous atmosphere". An atmospheric concentration of any substance that is not capable of causing death, incapacitation, impairment of ability to self-rescue, injury, or acute illness due to its health effects is not covered by this definition.

(5) Any other atmospheric condition that is immediately dangerous to life or health.

Note to paragraph (5) of the definition of "Hazardous atmosphere". For air contaminants for which OSHA has not determined a dose or permissible exposure limit, other sources of information, such as Safety Data Sheets that comply with the Hazard Communication Standard, § 1926.59, published information, and internal documents can provide guidance in establishing acceptable atmospheric conditions.

Host employer means the employer that owns or manages the property where the construction work is taking place.

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

Hot work means operations capable of providing a source of ignition (for example, riveting, welding, cutting, burning, and heating).

Immediately dangerous to life or health (IDLH) means any condition that would interfere with an individual's ability to escape unaided from a permit space and that poses a threat to life or that would cause irreversible adverse health effects.

Note to the definition of "Immediately dangerous to life or health". 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" after recovery from transient effects until collapse. Such materials in hazardous quantities are considered to be "immediately" dangerous to life or health.

Inerting means displacing the atmosphere in a permit space by a noncombustible gas (such as nitrogen) to such an extent that the resulting atmosphere is noncombustible.

Note to the definition of "Intering". This procedure produces an IDLH oxygen-deficient atmosphere.

Isolate or isolation means the process by which employees in a confined space are completely protected against the release of energy and material into the space, and contact with a physical hazard, by such means as: Blanking or blinding; misaligning or removing sections of lines, pipes, or ducts; a double block and bleed system; lockout or tagout of all sources of energy; blocking or disconnecting all mechanical linkages; or placement of barriers to eliminate the potential for employee contact with a physical hazard.

Limited or restricted means for entry or exit means a condition that has a potential to impede an employee's movement into or out of a confined space. Such conditions include, but are not limited to, trip hazards, poor illumination, slippery floors, inclining surfaces and ladders.

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

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

Lower flammable limit or lower explosive limit means the minimum concentration of a substance in air needed for an ignition source to cause a flame or explosion.

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

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

Non-permit confined space means a confined space that meets the definition

of a confined space but does not meet the requirements for a permit-required confined space, as defined in this subpart.

Oxygen deficient atmosphere means an atmosphere containing less than 19.5 percent oxygen by volume.

Oxygen enriched atmosphere means an atmosphere containing more than 23.5 percent oxygen by volume.

Permit-required confined space (permit space) means a confined space that has one or more of the following characteristics:

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

Permit-required confined space program (permit space program) means the employer's overall program for controlling, and, where appropriate, for protecting employees from, permit space hazards and for regulating employee entry into permit spaces.

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

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

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

Representative permit space means a mock-up of a confined space that has

entrance openings that are similar to, and is of similar size, configuration, and accessibility to, the permit space that authorized entrants enter.

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

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

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

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

Tagout means:

(1) Placement of a tagout device on a circuit or equipment that has been deenergized, in accordance with an established procedure, to indicate that the circuit or equipment being controlled may not be operated until the tagout device is removed; and

(2) The employer ensures that:

(i) Tagout provides equivalent protection to lockout; or

(ii) That lockout is infeasible and the employer has relieved, disconnected, restrained and otherwise rendered safe stored (residual) energy.

Test or testing means the process by which the hazards that may confront entrants of a permit space are identified and evaluated. Testing includes specifying the tests that are to be performed in the permit space.

Note to the definition of "Test or testing".

Testing enables employers both to devise and implement adequate control measures for the protection of authorized entrants and to determine if acceptable entry conditions are present immediately prior to, and during, entry.

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

§ 1926.1203 General requirements.

(a) Before it begins work at a worksite, each employer must ensure that a competent person identifies all confined spaces in which one or more of the

employees it directs may work, and identifies each space that is a permit space, through consideration and evaluation of the elements of that space, including testing as necessary.

(b) If the workplace contains one or more permit spaces, the employer who identifies, or who receives notice of, a permit space must:

(1) Inform exposed employees by posting danger signs or by any other equally effective means, of the existence and location of, and the danger posed by, each permit space; and

Note to paragraph (b)(1). A sign reading "DANGER—PERMIT-REQUIRED CONFINED SPACE, DO NOT ENTER" or using other similar language would satisfy the requirement for a sign.

(2) Inform, in a timely manner and in a manner other than posting, its employees' authorized representatives and the controlling contractor of the existence and location of, and the danger posed by, each permit space.

(c) Each employer who identifies, or receives notice of, a permit space and has not authorized employees it directs to work in that space must take effective measures to prevent those employees from entering that permit space, in addition to complying with all other applicable requirements of this standard.

(d) If any employer decides that employees it directs will enter a permit space, that employer must have a written permit space program that complies with § 1926.1204 implemented at the construction site. The written program must be made available prior to and during entry operations for inspection by employees and their authorized representatives.

(e) An employer may use the alternate procedures specified in paragraph (e)(2) of this section for entering a permit space only under the conditions set forth in paragraph (e)(1) of this section.

(1) An employer whose employees enter a permit space need not comply with §§ 1926.1204 through 1206 and §§ 1926.1208 through 1211, provided that all of the following conditions are met:

(i) The employer can demonstrate that all physical hazards in the space are eliminated or isolated through engineering controls so that the only hazard posed by the permit space is an actual or potential hazardous atmosphere;

(ii) The employer can demonstrate that continuous forced air ventilation alone is sufficient to maintain that permit space safe for entry, and that, in the event the ventilation system stops working, entrants can exit the space safely;

(iii) The employer develops monitoring and inspection data that supports the demonstrations required by paragraphs (e)(1)(i) and (ii) of this section;

(iv) If an initial entry of the permit space is necessary to obtain the data required by paragraph (e)(1)(iii) of this section, the entry is performed in compliance with §§ 1926.1204 through 1926.1211;

(v) The determinations and supporting data required by paragraphs (e)(1)(i), (ii), and (iii) of this section are documented by the employer and are made available to each employee who enters the permit space under the terms of paragraph (e) of this section or to that employee's authorized representative; and

(vi) Entry into the permit space under the terms of paragraph (e)(1) of this section is performed in accordance with the requirements of paragraph (e)(2) of this section.

Note to paragraph (e)(1). See paragraph (g) of this section for reclassification of a permit space after all hazards within the space have been eliminated.

(2) The following requirements apply to entry into permit spaces that meet the conditions set forth in paragraph (e)(1) of this section:

(i) Any conditions making it unsafe to remove an entrance cover must be eliminated before the cover is removed.

(ii) When entrance covers are removed, the opening must be immediately guarded by a railing, temporary cover, or other temporary barrier that will prevent an accidental fall through the opening and that will protect each employee working in the space from foreign objects entering the space.

(iii) Before an employee enters the space, the internal atmosphere must be tested, with a calibrated direct-reading instrument, for oxygen content, for flammable gases and vapors, and for potential toxic air contaminants, in that order. Any employee who enters the space, or that employee's authorized representative, must be provided an opportunity to observe the pre-entry testing required by this paragraph.

(iv) No hazardous atmosphere is permitted within the space whenever any employee is inside the space.

(v) Continuous forced air ventilation must be used, as follows:

(A) An employee must not enter the space until the forced air ventilation has eliminated any hazardous atmosphere;

(B) The forced air ventilation must be so directed as to ventilate the immediate areas where an employee is or will be present within the space and must

continue until all employees have left the space;

(C) The air supply for the forced air ventilation must be from a clean source and must not increase the hazards in the space.

(vi) The atmosphere within the space must be continuously monitored unless the entry employer can demonstrate that equipment for continuous monitoring is not commercially available or periodic monitoring is sufficient. If continuous monitoring is used, the employer must ensure that the monitoring equipment has an alarm that will notify all entrants if a specified atmospheric threshold is achieved, or that an employee will check the monitor with sufficient frequency to ensure that entrants have adequate time to escape. If continuous monitoring is not used, periodic monitoring is required. All monitoring must ensure that the continuous forced air ventilation is preventing the accumulation of a hazardous atmosphere. Any employee who enters the space, or that employee's authorized representative, must be provided with an opportunity to observe the testing required by this paragraph (e)(2)(vi).

(vii) If a hazard is detected during entry:

(A) Each employee must leave the space immediately;

(B) The space must be evaluated to determine how the hazard developed; and

(C) The employer must implement measures to protect employees from the hazard before any subsequent entry takes place.

(viii) The employer must ensure a safe method of entering and exiting the space. If a hoisting system is used, it must be designed and manufactured for personnel hoisting; however, a job-made hoisting system is permissible if it is approved for personnel hoisting by a registered professional engineer, in writing, prior to use.

(ix) The employer must verify that the space is safe for entry and that the pre-entry measures required by paragraph (e)(2) of this section have been taken, through a written certification that contains the date, the location of the space, and the signature of the person providing the certification. The certification must be made before entry and must be made available to each employee entering the space or to that employee's authorized representative.

(f) When there are changes in the use or configuration of a non-permit confined space that might increase the hazards to entrants, or some indication that the initial evaluation of the space may not have been adequate, each entry employer must have a competent person

reevaluate that space and, if necessary, reclassify it as a permit-required confined space.

(g) A space classified by an employer as a permit-required confined space may only be reclassified as a non-permit confined space when a competent person determines that all of the applicable requirements in paragraphs (g)(1) through (4) of this section have been met:

(1) If the permit space poses no actual or potential atmospheric hazards and if all hazards within the space are eliminated or isolated without entry into the space (unless the employer can demonstrate that doing so without entry is infeasible), the permit space may be reclassified as a non-permit confined space for as long as the non-atmospheric hazards remain eliminated or isolated;

(2) The entry employer must eliminate or isolate the hazards without entering the space, unless it can demonstrate that this is infeasible. If it is necessary to enter the permit space to eliminate or isolate hazards, such entry must be performed under §§ 1926.1204 through 1926.1211. If testing and inspection during that entry demonstrate that the hazards within the permit space have been eliminated or isolated, the permit space may be reclassified as a non-permit confined space for as long as the hazards remain eliminated or isolated;

Note to paragraph (g)(2). Control of atmospheric hazards through forced air ventilation does not constitute elimination or isolation of the hazards. Paragraph (e) of this section covers permit space entry where the employer can demonstrate that forced air ventilation alone will control all hazards in the space.

(3) The entry employer must document the basis for determining that all hazards in a permit space have been eliminated or isolated, through a certification that contains the date, the location of the space, and the signature of the person making the determination. The certification must be made available to each employee entering the space or to that employee's authorized representative; and

(4) If hazards arise within a permit space that has been reclassified as a non-permit space under paragraph (g) of this section, each employee in the space must exit the space. The entry employer must then reevaluate the space and reclassify it as a permit space as appropriate in accordance with all other applicable provisions of this standard.

(h) *Permit space entry communication and coordination.* (1) Before entry operations begin, the host employer must provide the following information, if it has it, to the controlling contractor:

(i) The location of each known permit space;

(ii) The hazards or potential hazards in each space or the reason it is a permit space; and

(iii) Any precautions that the host employer or any previous controlling contractor or entry employer implemented for the protection of employees in the permit space.

(2) Before entry operations begin, the controlling contractor must:

(i) Obtain the host employer's information about the permit space hazards and previous entry operations; and

(ii) Provide the following information to each entity entering a permit space and any other entity at the worksite whose activities could foreseeably result in a hazard in the permit space:

(A) The information received from the host employer;

(B) Any additional information the controlling contractor has about the subjects listed in paragraph (h)(1) of this section; and

(C) The precautions that the host employer, controlling contractor, or other entry employers implemented for the protection of employees in the permit spaces.

(3) Before entry operations begin, each entry employer must:

(i) Obtain all of the controlling contractor's information regarding permit space hazards and entry operations; and

(ii) Inform the controlling contractor of the permit space program that the entry employer will follow, including any hazards likely to be confronted or created in each permit space.

(4) The controlling contractor and entry employer(s) must coordinate entry operations when:

(i) More than one entity performs permit space entry at the same time; or

(ii) Permit space entry is performed at the same time that any activities that could foreseeably result in a hazard in the permit space are performed.

(5) After entry operations:

(i) The controlling contractor must debrief each entity that entered a permit space regarding the permit space program followed and any hazards confronted or created in the permit space(s) during entry operations;

(ii) The entry employer must inform the controlling contractor in a timely manner of the permit space program followed and of any hazards confronted or created in the permit space(s) during entry operations; and

(iii) The controlling contractor must apprise the host employer of the information exchanged with the entry entities pursuant to this subparagraph.

Note to paragraph (h). Unless a host employer or controlling contractor has or will have employees in a confined space, it is not required to enter any confined space to collect the information specified in this paragraph (h).

(i) If there is no controlling contractor present at the worksite, the requirements for, and role of, controlling contractors in this section must be fulfilled by the host employer or other employer who arranges to have employees of another employer perform work that involves permit space entry.

§ 1926.1204 Permit-required confined space program.

Each entry employer must:

(a) Implement the measures necessary to prevent unauthorized entry;

(b) Identify and evaluate the hazards of permit spaces before employees enter them;

(c) Develop and implement the means, procedures, and practices necessary for safe permit space entry operations, including, but not limited to, the following:

(1) Specifying acceptable entry conditions;

(2) Providing each authorized entrant or that employee's authorized representative with the opportunity to observe any monitoring or testing of permit spaces;

(3) Isolating the permit space and physical hazard(s) within the space;

(4) Purging, inerting, flushing, or ventilating the permit space as necessary to eliminate or control atmospheric hazards;

Note to paragraph (c)(4). When an employer is unable to reduce the atmosphere below 10 percent LFL, the employer may only enter if the employer inertes the space so as to render the entire atmosphere in the space non-combustible, and the employees use PPE to address any other atmospheric hazards (such as oxygen deficiency), and the employer eliminates or isolates all physical hazards in the space.

(5) Determining that, in the event the ventilation system stops working, the monitoring procedures will detect an increase in atmospheric hazard levels in sufficient time for the entrants to safely exit the permit space;

(6) Providing pedestrian, vehicle, or other barriers as necessary to protect entrants from external hazards;

(7) Verifying that conditions in the permit space are acceptable for entry throughout the duration of an authorized entry, and ensuring that employees are not allowed to enter into, or remain in, a permit space with a hazardous atmosphere unless the employer can demonstrate that personal protective equipment (PPE) will provide

effective protection for each employee in the permit space and provides the appropriate PPE to each employee; and

(8) Eliminating any conditions (for example, high pressure) that could make it unsafe to remove an entrance cover.

(d) Provide the following equipment (specified in paragraphs (d)(1) through (9) of this section) at no cost to each employee, maintain that equipment properly, and ensure that each employee uses that equipment properly:

(1) Testing and monitoring equipment needed to comply with paragraph (e) of this section;

(2) Ventilating equipment needed to obtain acceptable entry conditions;

(3) Communications equipment necessary for compliance with §§ 1926.1208(c) and 1926.1209(e), including any necessary electronic communication equipment for attendants assessing entrants' status in multiple spaces;

(4) Personal protective equipment insofar as feasible engineering and work-practice controls do not adequately protect employees;

Note to paragraph (d)(4). The requirements of subpart E of this part and other PPE requirements continue to apply to the use of PPE in a permit space. For example, if employees use respirators, then the respirator requirements in § 1926.103 (Respiratory protection) must be met.

(5) Lighting equipment that meets the minimum illumination requirements in § 1926.56, that is approved for the ignitable or combustible properties of the specific gas, vapor, dust, or fiber that will be present, and that is sufficient to enable employees to see well enough to work safely and to exit the space quickly in an emergency;

(6) Barriers and shields as required by paragraph (c)(4) of this section;

(7) Equipment, such as ladders, needed for safe ingress and egress by authorized entrants;

(8) Rescue and emergency equipment needed to comply with paragraph (i) of this section, except to the extent that the equipment is provided by rescue services; and

(9) Any other equipment necessary for safe entry into, safe exit from, and rescue from, permit spaces.

(e) Evaluate permit space conditions in accordance with the following paragraphs (e)(1) through (6) of this section when entry operations are conducted:

(1) Test conditions in the permit space to determine if acceptable entry conditions exist before changes to the space's natural ventilation are made, and before entry is authorized to begin, except that, if an employer demonstrates that isolation of the space is infeasible

because the space is large or is part of a continuous system (such as a sewer), the employer must:

(i) Perform pre-entry testing to the extent feasible before entry is authorized; and,

(ii) If entry is authorized, continuously monitor entry conditions in the areas where authorized entrants are working, except that employers may use periodic monitoring in accordance with paragraph (e)(2) of this section for monitoring an atmospheric hazard if they can demonstrate that equipment for continuously monitoring that hazard is not commercially available;

(iii) Provide an early-warning system that continuously monitors for non-isolated engulfment hazards. The system must alert authorized entrants and attendants in sufficient time for the authorized entrants to safely exit the space.

(2) Continuously monitor atmospheric hazards unless the employer can demonstrate that the equipment for continuously monitoring a hazard is not commercially available or that periodic monitoring is of sufficient frequency to ensure that the atmospheric hazard is being controlled at safe levels. If continuous monitoring is not used, periodic monitoring is required with sufficient frequency to ensure that acceptable entry conditions are being maintained during the course of entry operations;

(3) When testing for atmospheric hazards, test first for oxygen, then for combustible gases and vapors, and then for toxic gases and vapors;

(4) Provide each authorized entrant or that employee's authorized representative an opportunity to observe the pre-entry and any subsequent testing or monitoring of permit spaces;

(5) Reevaluate the permit space in the presence of any authorized entrant or that employee's authorized representative who requests that the employer conduct such reevaluation because there is some indication that the evaluation of that space may not have been adequate; and

(6) Immediately provide each authorized entrant or that employee's authorized representative with the results of any testing conducted in accordance with this section.

(f) Provide at least one attendant outside the permit space into which entry is authorized for the duration of entry operations:

(1) Attendants may be assigned to more than one permit space provided the duties described in § 1926.1209 can be effectively performed for each permit space.

(2) Attendants may be stationed at any location outside the permit space as long as the duties described in § 1926.1209 can be effectively performed for each permit space to which the attendant is assigned.

(g) If multiple spaces are to be assigned to a single attendant, include in the permit program the means and procedures to enable the attendant to respond to an emergency affecting one or more of those permit spaces without distraction from the attendant's responsibilities under § 1926.1209;

(h) Designate each person who is to have an active role (as, for example, authorized entrants, attendants, entry supervisors, or persons who test or monitor the atmosphere in a permit space) in entry operations, identify the duties of each such employee, and provide each such employee with the training required by § 1926.1207;

(i) Develop and implement procedures for summoning rescue and emergency services (including procedures for summoning emergency assistance in the event of a failed non-entry rescue), for rescuing entrants from permit spaces, for providing necessary emergency services to rescued employees, and for preventing unauthorized personnel from attempting a rescue;

(j) Develop and implement a system for the preparation, issuance, use, and cancellation of entry permits as required by this standard, including the safe termination of entry operations under both planned and emergency conditions;

(k) Develop and implement procedures to coordinate entry operations, in consultation with the controlling contractor, when employees of more than one employer are working simultaneously in a permit space or elsewhere on the worksite where their activities could, either alone or in conjunction with the activities within a permit space, foreseeably result in a hazard within the confined space, so that employees of one employer do not endanger the employees of any other employer;

(l) Develop and implement procedures (such as closing off a permit space and canceling the permit) necessary for concluding the entry after entry operations have been completed;

(m) Review entry operations when the measures taken under the permit space program may not protect employees and revise the program to correct deficiencies found to exist before subsequent entries are authorized; and

Note to paragraph (m). Examples of circumstances requiring the review of the

permit space program include, but are not limited to: Any unauthorized entry of a permit space, the detection of a permit space hazard not covered by the permit, the detection of a condition prohibited by the permit, the occurrence of an injury or near-miss during entry, a change in the use or configuration of a permit space, and employee complaints about the effectiveness of the program.

(n) Review the permit space program, using the canceled permits retained under § 1926.1205(f), within 1 year after each entry and revise the program as necessary to ensure that employees participating in entry operations are protected from permit space hazards.

Note to paragraph (n). Employers may perform a single annual review covering all entries performed during a 12-month period. If no entry is performed during a 12-month period, no review is necessary.

§ 1926.1205 Permitting process.

(a) Before entry is authorized, each entry employer must document the completion of measures required by § 1926.1204(c) by preparing an entry permit.

(b) Before entry begins, the entry supervisor identified on the permit must sign the entry permit to authorize entry.

(c) The completed permit must be made available at the time of entry to all authorized entrants or their authorized representatives, by posting it at the entry portal or by any other equally effective means, so that the entrants can confirm that pre-entry preparations have been completed.

(d) The duration of the permit may not exceed the time required to complete the assigned task or job identified on the permit in accordance with § 1926.1206(b).

(e) The entry supervisor must terminate entry and take the following action when any of the following apply:

(1) Cancel the entry permit when the entry operations covered by the entry permit have been completed; or

(2) Suspend or cancel the entry permit and fully reassess the space before allowing reentry when a condition that is not allowed under the entry permit arises in or near the permit space and that condition is temporary in nature and does not change the configuration of the space or create any new hazards within it; and

(3) Cancel the entry permit when a condition that is not allowed under the entry permit arises in or near the permit space and that condition is not covered by paragraph (e)(2) of this section.

(f) The entry employer must retain each canceled entry permit for at least 1 year to facilitate the review of the permit-required confined space program

required by § 1926.1204(n). Any problems encountered during an entry operation must be noted on the pertinent permit so that appropriate revisions to the permit space program can be made.

§ 1926.1206 Entry permit.

The entry permit that documents compliance with this section and authorizes entry to a permit space must identify:

- (a) The permit space to be entered;
- (b) The purpose of the entry;
- (c) The date and the authorized duration of the entry permit;
- (d) The authorized entrants within the permit space, by name or by such other means (for example, through the use of rosters or tracking systems) as will enable the attendant to determine quickly and accurately, for the duration of the permit, which authorized entrants are inside the permit space;

Note to paragraph (d). This requirement may be met by inserting a reference on the entry permit as to the means used, such as a roster or tracking system, to keep track of the authorized entrants within the permit space.

(e) Means of detecting an increase in atmospheric hazard levels in the event the ventilation system stops working;

(f) Each person, by name, currently serving as an attendant;

(g) The individual, by name, currently serving as entry supervisor, and the signature or initials of each entry supervisor who authorizes entry;

(h) The hazards of the permit space to be entered;

(i) The measures used to isolate the permit space and to eliminate or control permit space hazards before entry;

Note to paragraph (i). Those measures can include, but are not limited to, the lockout or tagging of equipment and procedures for purging, inerting, ventilating, and flushing permit spaces.

(j) The acceptable entry conditions;

(k) The results of tests and monitoring performed under § 1926.1204(e), accompanied by the names or initials of the testers and by an indication of when the tests were performed;

(l) The rescue and emergency services that can be summoned and the means (such as the equipment to use and the numbers to call) for summoning those services;

(m) The communication procedures used by authorized entrants and attendants to maintain contact during the entry;

(n) Equipment, such as personal protective equipment, testing equipment, communications equipment, alarm systems, and rescue equipment, to

be provided for compliance with this standard;

(o) Any other information necessary, given the circumstances of the particular confined space, to ensure employee safety; and

(p) Any additional permits, such as for hot work, that have been issued to authorize work in the permit space.

§ 1926.1207 Training.

(a) The employer must provide training to each employee whose work is regulated by this standard, at no cost to the employee, and ensure that the employee possesses the understanding, knowledge, and skills necessary for the safe performance of the duties assigned under this standard. This training must result in an understanding of the hazards in the permit space and the methods used to isolate, control or in other ways protect employees from these hazards, and for those employees not authorized to perform entry rescues, in the dangers of attempting such rescues.

(b) Training required by this section must be provided to each affected employee:

(1) In both a language and vocabulary that the employee can understand;

(2) Before the employee is first assigned duties under this standard;

(3) Before there is a change in assigned duties;

(4) Whenever there is a change in permit space entry operations that presents a hazard about which an employee has not previously been trained; and

(5) Whenever there is any evidence of a deviation from the permit space entry procedures required by § 1926.1204(c) or there are inadequacies in the employee's knowledge or use of these procedures.

(c) The training must establish employee proficiency in the duties required by this standard and must introduce new or revised procedures, as necessary, for compliance with this standard.

(d) The employer must maintain training records to show that the training required by paragraphs (a) through (c) of this section has been accomplished. The training records must contain each employee's name, the name of the trainers, and the dates of training. The documentation must be available for inspection by employees and their authorized representatives, for the period of time the employee is employed by that employer.

§ 1926.1208 Duties of authorized entrants.

The entry employer must ensure that all authorized entrants:

(a) Are familiar with and understand the hazards that may be faced during entry, including information on the mode, signs or symptoms, and consequences of the exposure;

(b) Properly use equipment as required by § 1926.1204(d);

(c) Communicate with the attendant as necessary to enable the attendant to assess entrant status and to enable the attendant to alert entrants of the need to evacuate the space as required by § 1926.1209(f);

(d) Alert the attendant whenever:

(1) There is any warning sign or symptom of exposure to a dangerous situation; or

(2) The entrant detects a prohibited condition; and

(e) Exit from the permit space as quickly as possible whenever:

(1) An order to evacuate is given by the attendant or the entry supervisor;

(2) There is any warning sign or symptom of exposure to a dangerous situation;

(3) The entrant detects a prohibited condition; or

(4) An evacuation alarm is activated.

§ 1926.1209 Duties of attendants.

The entry employer must ensure that each attendant:

(a) Is familiar with and understands the hazards that may be faced during entry, including information on the mode, signs or symptoms, and consequences of the exposure;

(b) Is aware of possible behavioral effects of hazard exposure in authorized entrants;

(c) Continuously maintains an accurate count of authorized entrants in the permit space and ensures that the means used to identify authorized entrants under § 1926.1206(d) accurately identifies who is in the permit space;

(d) Remains outside the permit space during entry operations until relieved by another attendant;

Note to paragraph (d). Once an attendant has been relieved by another attendant, the relieved attendant may enter a permit space to attempt a rescue when the employer's permit space program allows attendant entry for rescue and the attendant has been trained and equipped for rescue operations as required by § 1926.1211(a).

(e) Communicates with authorized entrants as necessary to assess entrant status and to alert entrants of the need to evacuate the space under § 1926.1208(e);

(f) Assesses activities and conditions inside and outside the space to determine if it is safe for entrants to remain in the space and orders the authorized entrants to evacuate the

permit space immediately under any of the following conditions:

(1) If there is a prohibited condition;

(2) If the behavioral effects of hazard exposure are apparent in an authorized entrant;

(3) If there is a situation outside the space that could endanger the authorized entrants; or

(4) If the attendant cannot effectively and safely perform all the duties required under this section;

(g) Summons rescue and other emergency services as soon as the attendant determines that authorized entrants may need assistance to escape from permit space hazards;

(h) Takes the following actions when unauthorized persons approach or enter a permit space while entry is underway:

(1) Warns the unauthorized persons that they must stay away from the permit space;

(2) Advises the unauthorized persons that they must exit immediately if they have entered the permit space; and

(3) Informs the authorized entrants and the entry supervisor if unauthorized persons have entered the permit space;

(i) Performs non-entry rescues as specified by the employer's rescue procedure; and

(j) Performs no duties that might interfere with the attendant's primary duty to assess and protect the authorized entrants.

§ 1926.1210 Duties of entry supervisors.

The entry employer must ensure that each entry supervisor:

(a) Is familiar with and understands the hazards that may be faced during entry, including information on the mode, signs or symptoms, and consequences of the exposure;

(b) Verifies, 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;

(c) Terminates the entry and cancels or suspends the permit as required by § 1926.1205(e);

(d) Verifies that rescue services are available and that the means for summoning them are operable, and that the employer will be notified as soon as the services become unavailable;

(e) Removes unauthorized individuals who enter or who attempt to enter the permit space during entry operations; and

(f) Determines, whenever responsibility for a permit space entry operation is transferred, and at intervals dictated by the hazards and operations performed within the space, that entry

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operations remain consistent with terms of the entry permit and that acceptable entry conditions are maintained.

§ 1926.1211 Rescue and emergency services.

(a) An employer who designates rescue and emergency services, pursuant to § 1926.1204(i), must:

(1) Evaluate a prospective rescuer's ability to respond to a rescue summons in a timely manner, considering the hazard(s) identified;

Note to paragraph (a)(1). What will be considered timely will vary according to the specific hazards involved in each entry. For example, § 1926.103 (Respiratory protection) requires that employers provide a standby person or persons capable of immediate action to rescue employee(s) wearing respiratory protection while in work areas defined as IDLH atmospheres.

(2) Evaluate a prospective rescue service's ability, in terms of proficiency with rescue-related tasks and equipment, to function appropriately while rescuing entrants from the particular permit space or types of permit spaces identified;

(3) Select a rescue team or service from those evaluated that:

(i) Has the capability to reach the victim(s) within a time frame that is appropriate for the permit space hazard(s) identified;

(ii) Is equipped for, and proficient in, performing the needed rescue services;

(iii) Agrees to notify the employer immediately in the event that the rescue service becomes unavailable;

(4) Inform each rescue team or service of the hazards they may confront when called on to perform rescue at the site; and

(5) Provide the rescue team or service selected with access to all permit spaces from which rescue may be necessary so that the rescue team or service can develop appropriate rescue plans and practice rescue operations.

(b) An employer whose employees have been designated to provide permit space rescue and/or emergency services must take the following measures and provide all equipment and training at no cost to those employees:

(1) Provide each affected employee with the personal protective equipment (PPE) needed to conduct permit space rescues safely and train each affected

employee so the employee is proficient in the use of that PPE;

(2) Train each affected employee to perform assigned rescue duties. The employer must ensure that such employees successfully complete the training required and establish proficiency as authorized entrants, as provided by §§ 1926.1207 and 1926.1208;

(3) Train each affected employee in basic first aid and cardiopulmonary resuscitation (CPR). The employer must ensure that at least one member of the rescue team or service holding a current certification in basic first aid and CPR is available; and

(4) Ensure that affected employees practice making permit space rescues before attempting an actual rescue, and at least once every 12 months, by means of simulated rescue operations in which they remove dummies, manikins, or actual persons from the actual permit spaces or from representative permit spaces, except practice rescue is not required where the affected employees properly performed a rescue operation during the last 12 months in the same permit space the authorized entrant will enter, or in a similar permit space. Representative permit spaces must, with respect to opening size, configuration, and accessibility, simulate the types of permit spaces from which rescue is to be performed.

(c) Non-entry rescue is required unless the retrieval equipment would increase the overall risk of entry or would not contribute to the rescue of the entrant. The employer must designate an entry rescue service whenever non-entry rescue is not selected. Whenever non-entry rescue is selected, the entry employer must ensure that retrieval systems or methods are used whenever an authorized entrant enters a permit space, and must confirm, prior to entry, that emergency assistance would be available in the event that non-entry rescue fails. Retrieval systems must meet the following requirements:

(1) 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 the employer can establish presents a profile small enough for the

successful removal of the entrant.

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

(2) The other end of the retrieval line must be attached to a mechanical device or fixed point outside the permit space in such a manner that rescue can begin as soon as the rescuer becomes aware that rescue is necessary. A mechanical device must be available to retrieve personnel from vertical type permit spaces more than 5 feet (1.52 meters) deep.

(3) Equipment that is unsuitable for retrieval must not be used, including, but not limited to, retrieval lines that have a reasonable probability of becoming entangled with the retrieval lines used by other authorized entrants, or retrieval lines that will not work due to the internal configuration of the permit space.

(d) 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.

§ 1926.1212 Employee participation.

(a) Employers must consult with affected employees and their authorized representatives on the development and implementation of all aspects of the permit space program required by § 1926.1203.

(b) Employers must make available to each affected employee and his/her authorized representatives all information required to be developed by this standard.

§ 1926.1213 Provision of documents to Secretary.

For each document required to be retained in this standard, the retaining employer must make the document available on request to the Secretary of Labor or the Secretary's designee.

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