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29 CFR Part 1926

Confined Spaces in Construction; Proposed Rule

DEPARTMENT OF LABOR

Occupational Safety and Health Administration

29 CFR Part 1926

[Docket ID–OSHA–2007–0026]

RIN 1218–AB47

Confined Spaces in Construction

AGENCY: Occupational Safety and Health Administration (OSHA), Labor.

ACTION: Proposed rule.

SUMMARY: OSHA is proposing a rule to protect employees from the hazards resulting from exposure to confined spaces in the construction industry. Under the proposed rule, employers would first determine whether there is a confined space at a job site. If there is a confined space, the employer would determine if there are existing or potential hazards in the space. If there are such hazards, the employer then would classify the space according to the physical and atmospheric hazards found in it. The four classifications are: Isolated-Hazard Confined Space, Controlled-Atmosphere Confined Space, Permit-Required Confined Space, and Continuous System-Permit-Required Confined Space. The proposed requirements for each type of confined space are tailored to control the different types of hazards.

DATES: Submit comments (including comments to the information-collection (paperwork) determination described under the section titled **SUPPLEMENTARY INFORMATION** of this notice), hearing requests, and other information by January 28, 2008. All submissions must bear a postmark or provide other evidence of the submission date. (See the following section titled **ADDRESSES** for methods you can use in making submissions.)

ADDRESSES: Comments and hearing requests may be submitted as follows:

- *Electronic:* Comments may be submitted electronically to *http://www.regulations.gov*, which is the Federal eRulemaking Portal. Follow the instructions online for submitting comments.
- *Facsimile:* OSHA allows facsimile transmission of comments and hearing requests that are 10 pages or fewer in length (including attachments). Send these documents to the OSHA Docket Office at (202) 693–1648; hard copies of these documents are not required. Instead of transmitting facsimile copies of attachments that supplement these documents (e.g., studies, journal articles), commenters may submit these attachments, in triplicate hard copy, to the OSHA Docket Office, Technical Data Center, Room N–2625, OSHA, U.S. Department of Labor, 200 Constitution Ave., NW., Washington, DC 20210. These attachments must clearly identify the sender's name, date, subject, and Docket ID (i.e., OSHA–2007–0026) so that the Agency can attach them to the appropriate document.
- *Regular mail, express delivery, hand (courier) delivery, and messenger service:* Submit three copies of comments and any additional material (e.g., studies, journal articles) to the OSHA Docket Office, Docket ID OSHA–2007–0026 or RIN No. 1218–AB47, Technical Data Center, Room N–2625, OSHA, Department of Labor, 200 Constitution Ave., NW., Washington, DC 20210; *telephone:* (202) 693–2350. (OSHA's TTY number is (877) 889–5627.) Please contact the OSHA Docket Office for information about security procedures concerning delivery of materials by express delivery, hand delivery, and messenger service. The hours of operation for the OSHA Docket Office are 8:15 a.m. to 4:45 p.m., e.t.

Instructions: All submissions must include the Agency name and the OSHA Docket ID (*i.e.*, OSHA–2007–0026). Comments and other material, including any personal information, are placed in the public docket without revision, and will be available online at *http://www.regulations.gov*. Therefore, the Agency cautions commenters about submitting statements they do not want made available to the public, or submitting comments that contain personal information (either about themselves or others) such as social security numbers, birth dates, and medical data.

Docket: To read or download comments or other material in the docket, go to *http://www.regulations.gov* or to the OSHA Docket Office at the address above. Documents in the docket are listed in the *http://www.regulations.gov* index; however, some information (*e.g.*, copyrighted material) is not publicly available to read or download through this Web site. All submissions, including copyrighted material, are available for inspection and copying at the OSHA Docket Office. Contact the OSHA Docket Office for assistance in locating docket submissions.

FOR FURTHER INFORMATION CONTACT:

- *General information and press inquiries:* Contact Mr. Kevin Ropp, Director, Office of Communications, OSHA, U.S. Department of Labor, Room N–3647, 200 Constitution Avenue, NW., Washington, DC 20210; telephone (202) 693–1999 or fax (202) 693–1634.
- *Technical inquiries:* Contact Mr. Garvin Branch, Directorate of Construction, Room N–3468, OSHA, U.S. Department of Labor, 200 Constitution Avenue, NW., Washington, DC 20210; telephone (202) 693–2020 or fax (202) 693–1689.
- *Copies of this Federal Register notice:* Available from the OSHA Office of Publications, Room N–3101, U.S. Department of Labor, 200 Constitution Avenue, NW., Washington, DC 20210; telephone (202) 693–1888.
- *Electronic copies of this notice:* Go to OSHA's Web site (*http://www.osha.gov*), and select ''**Federal Register**,'' ''Date of Publication,'' and then ''2007.''
- *Additional information for submitting documents:* See section V.I. (''Public Participation'') of this notice.

SUPPLEMENTARY INFORMATION:

I. General

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B. Hearing

Requests for a hearing should be submitted to the Agency as set forth above under **DATES** and **ADDRESSES**.

II. Background

A. History

On March 25, 1980, OSHA published an Advanced Notice of Proposed Rulemaking (ANPR) on confined spaces for the construction industry (45 FR

19266 [1]). The ANPR posed 31 questions concerning confined-space hazards in the construction industry, and the Agency received 75 comments in response to these questions. However, OSHA took no further action on this regulatory initiative at the time.

OSHA issued the general industry confined-spaces rule (29 CFR 1910.146) on January 14, 1993 (58 FR 4462), as well as a similar rule for the shipyard industry 29 CFR 1915.7, 11–16) on July 25, 1994 (59 FR 37816). The general industry standard requires employers to classify hazardous confined spaces as ''permit-required confined spaces,'' and to implement specific procedures to ensure the safety of employees who enter them.

It contains detailed procedures for developing a written confined-space program, monitoring atmospheric hazards, training employees, preventing unauthorized employees from entering these spaces, providing for both non-entry and entry rescue, and maintaining records.

The general industry standard specifies a limited exception from some of the permit-required confined-space requirements when the only hazard in a confined space is an atmospheric hazard and ventilation equipment will control the atmospheric hazard at safe levels. It also provides protection to employees from non-atmospheric (for example, physical) hazards within non-permit-required, as well as permit-required, confined spaces. However, the general industry standard does not apply to construction employers, and, as such, does not specify the appropriate level of employee protection based on the hazards created by construction activities performed in confined spaces. Table 1 provides a description of the key differences between the general industry standard and the proposed standard for confined spaces in construction.

TABLE 1.—KEY DIFFERENCES IN REGULATORY PROVISIONS BETWEEN THE GENERAL INDUSTRY AND PROPOSED CONSTRUCTION STANDARDS

General industry standard	Proposed construction standard
Organization of the Standard	
The standard begins with requirements for entering PRCSs	The proposed standard takes a step-by-step approach, explaining how to assess hazards, determine the classification for the space, and how to safely enter it.
Information Exchange	
The standard requires a host employer to coordinate entry operations with a contractor when the host employer and the contractor both have employees working in or near a permit space.	The proposed standard requires the controlling contractor to coordinate entry operations among contractors who have employees in a confined space regardless of whether or not the controlling contractor has employees in the confined space.
Confined Space with Hazards Isolated	
Does not address working in confined spaces in which the hazard has been isolated.	Allows employers to establish an Isolated-Hazard Confined Space by isolating or eliminating all physical and atmospheric hazards in a confined space.
Controlled-Atmosphere Permit-Required Confined Space	
Monitoring required as necessary	Continuous monitoring required unless the employer demonstrates that periodic monitoring is sufficient.
Permit-Required Confined Spaces (PRCS)	
No explicit requirement for entry supervisor to monitor PRCS conditions during entry.	Explicit requirement for entry supervisor to monitor PRCS conditions during entry.
Requires a written PRCS plan	No written plan required when employer maintains a copy of the standard at the worksite.
No specific early-warning requirements for up-stream hazards	Early-warning requirement for up-stream hazards in sewer-type spaces.

The Agency recognizes that a number of requirements of the proposed standard for confined spaces in construction duplicate, or are similar to, the provisions of the general industry standard for permit-required confined spaces. Nevertheless, OSHA does not believe that the general industry standard addresses adequately the unique characteristics of confined spaces in construction. Compared to general industry, the construction industry experiences higher employee turnover rates, with construction employees more often working at multiple worksites performing short-term tasks. Unlike most general industry worksites, construction worksites are continually evolving, with the number and characteristics of confined spaces changing as work progresses. Multiple contractors and controlling contractors are found more often at construction worksites than at general industry worksites. Also, in contrast to general industry, OSHA believes that many contractors who perform construction work in sewer systems are unfamiliar with the hazards associated with these worksites. Therefore, OSHA placed

[1] ''FR'' refers to ''**Federal Register**,'' with the volume number (for example, 45) before, and the page number (for example, 19266) after, ''FR.''

more emphasis in this proposed standard on assessing hazards at sewer worksites than it did in the general industry confined-spaces standard.

The differences in employee and worksite characteristics between the construction industry and general industry prompted OSHA to develop a proposed standard for regulating confined spaces in the construction industry that varied substantially from the general industry confined-spaces standard as described above in Table 1 of this preamble. Because of the regulatory differences between this proposed standard and the general industry standard, the general industry standard would not be considered a substitute for this proposed construction standard except where the provisions are essentially the same.

In 1993, as part of the litigation activity surrounding the newly promulgated general industry standard, OSHA agreed in a settlement with the United Steel Workers of America to issue a proposed rule to extend confined-space protection to construction employees. On February 18, 1994, OSHA submitted a draft proposed standard for confined spaces in construction to the Advisory Committee for Construction Safety and Health (ACCSH) for comment. ACCSH established a work group on March 22, 1994 to address the OSHA draft proposed standard and report its findings to the full committee.

ACCSH adopted the work group report on May 17, 1994, and recommended that OSHA incorporate it into a rulemaking docket. In this report, ACCSH noted that the general industry standard did not meet the needs of the construction industry because it did not provide adequate information to contractors for distinguishing among the different types of confined spaces, or to determine the appropriate level of employee protection based on the hazards resulting from construction activities performed in confined spaces. In addition, ACCSH found that confined spaces encountered or created in construction often are not identified or classified prior to the beginning of a construction project.

Consequently, ACCSH established a work group to draft a proposed standard that would meet the unique needs of the construction industry. The draft proposed standard emphasized identifying different types of confined spaces encountered in construction (for example, where the hazard has been isolated, where atmospheric hazards are controlled at safe levels, and permit-required spaces), inter-contractor information exchange, and the detailed protections necessary to eliminate or control specific hazards.

As the result of the ACCSH work group review, a draft proposed standard for confined spaces in construction was submitted to OSHA in the winter of 1996 and ACCSH recommended that it be used as a proposed confined-spaces standard. OSHA determined that the ACCSH draft proposed standard needed to be reworked to make it easier to understand, especially for small employers who do not employ a separate safety staff. The Agency also determined that certain hazards, such as those encountered in sewer-construction work, were not adequately addressed. Consequently, OSHA determined that it was necessary to develop a new draft proposed standard.

In 1998, OSHA completed a new draft proposed standard but discovered that there were several issues that needed to be resolved before the draft proposed standard could be finalized. To get feedback from the construction community, OSHA held three stakeholders meetings in October of 2000 across the country. The topics discussed were: (1) Typical confined spaces encountered in construction; (2) whether an early-warning system should be required for spaces in which an engulfment hazard cannot be isolated (such as in some sewer situations); (3) the need for, and cost of, continuous monitoring for atmospheric hazards; (4) how a confined-spaces standard for construction could accommodate the needs of small businesses; and (5) whether an attendant should be permitted to monitor more than one confined space at a time.

In late 2003, OSHA completed the new draft proposed standard and convened a panel under the Small Business Regulatory Enforcement Fairness Act (SBREFA) to solicit comments on it from small business entities. The SBREFA panel conducted two conference-call discussions, which were open to the public, in which the small business entities were invited to express their concerns about the draft proposed standard and submit written comments to the record that covered the issues. The SBREFA panel then submitted its recommendations to the Assistant Secretary in November 2003.

This proposed confined-spaces standard for construction reflects input from stakeholder meetings, ACCSH, and the SBREFA review process. For example, a provision that would have addressed working in hazardous-enclosed spaces (spaces designed for human occupancy but subject to a hazardous atmosphere), which small business entities participating in the SBREFA review process considered burdensome and unnecessary, was eliminated because OSHA believes that existing construction standards (for example, 29 CFR 1926.55) adequately address these hazards. This proposed standard uses a confined-space classification approach that is influenced by ACCSH recommendations. The proposed standard is organized as chronologically as possible to help guide the employer, from its initial encounter with a potential confined space, through the steps necessary to ensure that employees are adequately protected. In addition, it addresses the need for coordination and information exchange at construction sites, which typically have multiple employers.

B. Need for a Rule Regulating Confined Spaces in Construction

Fatality and injury data, OSHA enforcement experience, and advice from the Advisory Committee on Construction Safety and Health (ACCSH) indicate that the existing construction standard for confined and enclosed spaces at 29 CFR 1926.21(b)(6) does not adequately protect construction employees in confined spaces from atmospheric, mechanical, and other hazards. In this regard, the existing construction standard only requires employers to: (1) Instruct their employees about confined-space hazards, and (2) comply with other OSHA construction standards that address confined-space hazards. For situations in which none of these construction standards apply, the employer would have to comply with the general-duty requirement of the Occupational Safety and Health Act of 1970 to ''furnish to each of [its] employees employment and a place of employment which are free from recognized hazards that are causing or are likely to cause death or serious physical harm to [its] employees.'' (29 U.S.C. 654.) Therefore, where the existing construction confined-spaces standard applies, it requires only training of employees who work in confined spaces—it does not address how trained employees are to be protected while working in such spaces.

OSHA has preliminarily determined that employees in the construction industry who perform work in confined spaces face a significant risk of death or serious injury, and that this proposed rule would substantially reduce that risk. At present, approximately 20,000 establishments have employees entering at least one confined space as defined by the proposed rule. There are an estimated annual total of 641,000

confined spaces; about half of these confined spaces would be considered permit-required confined spaces under this proposal (Ex. OSHA–2007–0026–0003). OSHA estimates that each year there are 6.44 fatalities and 967 injuries experienced by employees working in confined spaces addressed by this proposed rule. OSHA has preliminary determined that the proposed rule, when implemented properly by employers, would reduce the average number of fatalities and injuries in confined spaces covered by the proposed standard by about 90% (6 fatalities prevented annually and 880 injuries prevented annually). (For further explanation of the significant-risk calculations, see section V.B. (''Summary of the Preliminary Economic Analysis and Initial Regulatory Flexibility Analysis'') of this notice and Ex, OSHA–2007–0026–0003).

III. Summary and Explanation of the Proposed Standard

Section 1926.1201—Introduction

Paragraph (a). This paragraph states the general purpose of the proposed rule. This standard would cover employers who have employees that work in or near a confined space that is subject to a hazard. Appropriate precautions are needed to ensure the safety of these employees. This proposed paragraph also defines a confined space as: a space that is large enough and arranged in such a manner that employees can enter the space, has limited or restricted means of entry/exit and is not designed for continuous employee occupancy.

Spaces with these characteristics are prone to containing hazards that tend to be unseen and unrecognized until it is too late to escape. Consequently, it is necessary to assess these spaces to see if there are actual or potential hazards beforehand, and to implement procedures designed both to protect construction employees from such hazards and to rescue them in the event the protective measures do not work as anticipated.

Paragraph (b). Employers would be required to determine the classification of each confined space that is subject to a hazard. Employers must classify such spaces as one of four types specified by this proposed standard. The classification is based on factors such as the type and level of hazards present in the confined space. If the employer determines that a confined space in its natural state is not subject to a hazard, it would not be classified. (Note that in this proposed rule, the term ''hazard'' includes both existing hazards and hazards that have a reasonable probability of occurring.) The employer would not have to take any further action unless one of the indications specified in proposed § 1926.1207 (Reassessment) occurred, in which case the employer would be required to take certain actions, including a reassessment of the space. The monitoring of conditions within a confined space is an ongoing process and is necessary for the employer to ensure the safety of its employees while working within that space.

Paragraph (b)(1). This proposed paragraph lists the four classifications of confined spaces ((b)(1)(i) through (b)(1)(iv)).

Paragraph (b)(1)(i). A Continuous System-Permit-Required Confined Space (CS-PRCS) is a confined space that is a part of, and contiguous with, a larger confined space (for example, sewers) that the employer cannot isolate from the larger confined space. It is also subject to a potential hazard release from the larger confined space that would overwhelm personal protective equipment and/or hazard controls, resulting in a hazard that is immediately dangerous to life and health. The proposed rule includes the CS-PRCS classification to ensure that the employer recognizes that, as the construction industry has recognized, there are difficulties associated with isolating the hazards of other larger spaces connected to the CS–PRCS. Special precautions are necessary, in addition to the other PRCS requirements, to ensure adequate protection of the employees.

Paragraph (b)(1)(ii). A Permit-Required Confined Space (PRCS) is a confined space that has any one of the following: A hazardous atmosphere that ventilation will not reduce to and maintain at a safe level; inwardly-converging, sloping, or tapering surfaces that could trap or asphyxiate an employee; or an engulfment hazard or other physical hazard.

Paragraph (b)(1)(iii). A Controlled-Atmosphere Confined Space (CACS) is a confined space where ventilation alone will control its atmospheric hazards at safe levels. Note also that a confined space cannot be classified as a CACS if it has a physical hazard (unless that hazard has been isolated). The proposed rule includes the CACS as a separate classification from the PRCS because fewer precautions are needed to ensure the safety of its employees than for PRCSs, but more precautions are needed than for an Isolated-Hazard Confined Space (discussed below under paragraph (b)(1)(iv)) because the atmospheric hazard is controlled but not eliminated. This option is provided to the employer to allow it to provide a level of employee protection specifically tailored to, and commensurate with, the hazards within the confined space. In a space properly classified as a CACS, OSHA believes that the use of the CACS measures, as compared with the PRCS measures, would be as protective and typically more cost effective.

Paragraph (b)(1)(iv). An Isolated-Hazard Confined Space (IHCS) is a confined space in which the employer has isolated all physical and atmospheric hazards. ''Isolated'' means the elimination or removal of a physical or atmospheric hazard by preventing its release into a confined space. Isolation includes, but is not limited to, the following methods: Blanking and blinding; misaligning or removing sections of lines, pipes, or ducts; a double-block-and-bleed system; locking out or tagging out energy sources; machine guarding; and blocking or disconnecting all mechanical linkages. Methods must be implemented to ensure that the hazards remain isolated. Isolation methods provide the highest degree of assurance that the hazard will be kept away from the employees in the space, since it consists of methods that do not depend on the continued, proper operation of machinery (such as ventilation equipment) or personal protective equipment (such as respirators). Consequently, this classification of space presents the lowest hazard level to the employees, and is similar to a ''non-permit space'' described in 29 CFR 1910.146(c)(7) of the general industry standard.

Paragraph (b)(2). This proposed provision gives the employer the option to classify a confined space in any classification, so long as all of the characteristics and requirements for that classification are met. The Agency considered proposing that the employer be required to try to make the space qualify for the lowest possible classification. However, after considering comments from small business entities received through the Small Business Regulatory Enforcement Fairness Act (SBREFA) review, OSHA decided to give employers more flexibility; employers may use any of the classifications, as long as the requirements for the selected classification are met. OSHA believes it is important to allow employers the flexibility to classify confined spaces based on the conditions or circumstances of individual work environments.

The one exception is that a space with the characteristics of a Continuous

System-Permit-Required Confined Space cannot be given a different classification. Where a confined space meets the definition of a CS–PRCS, the employer must classify the space as such and meet all of its requirements. To meet the definition of a CS–PRCS, the employer must have determined that the confined space could not be isolated from its connection to a larger space and its associated hazards. OSHA believes that since the potential hazards of the larger space will always exist, the additional CS–PRCS requirements must be met to address the hazards. Classifying the space to any lower classification would leave the employees exposed to an engulfment or atmospheric hazard that could originate in the connected, larger space (that is, the configuration of CS–PRCSs is such that an employer cannot safely eliminate or isolate the potential hazards so as to meet the criteria for a lower classification).

Paragraph (c). The proposed standard specifies precautions that must be followed if the employees have to enter the space to determine its classification (see paragraph (b) of proposed § 1926.1204). These precautions are necessary because the characteristics and extent of the hazards that may be present would not yet be known at that point.

Paragraph (d). If the contractor makes a determination under proposed § 1926.1204 (Worksite evaluation, information, exchange, and coordination) that the confined space is not subject to any hazards, the confined space would not need to be classified. However, if subsequent to that determination any of the indications specified in proposed § 1926.1207 (Reassessment) were to occur, the contractor would be required to conduct a reassessment as specified in proposed § 1926.1207. This is necessary to ensure that there continue to be no hazards present when employees are in an unclassified confined space.

Section 1926.1202—Scope

The proposed standard provides minimum safety and health requirements and procedures to protect employees who work in or near confined spaces. It addresses how to protect employees from confined-space hazards. The proposed standard includes requirements for training, hazard analysis, classification, entering, working, exiting, and rescue for confined spaces of various hazard levels.

This proposed standard does not replace the more hazard-specific construction standards that are already in place. Rather, this proposed standard is designed to provide additional protections needed to deal with hazards that may arise when employees are working in or near a confined space.

Paragraph (a). This paragraph identifies which employers are covered by the proposed standard. Employers who are engaged in construction work and have confined spaces at their job sites are subject to the provisions of the proposed standard. Further, employers who have confined spaces on their job site and hire subcontractors to operate within those spaces also would have to meet specific requirements in the proposed standard. The note to this paragraph includes a non-exclusive list of potential confined spaces that commonly occur on a construction worksite. This list provides examples for employers who may be unfamiliar with confined spaces in construction.

Paragraph (b). This paragraph explicitly excludes construction work regulated by 29 CFR part 1926 subpart Y (Diving), non-sewer construction work regulated by 29 CFR part 1926 subpart P (Excavation), and non-sewer construction work regulated by 29 CFR part 1926 subpart S (Underground Construction, Caissons, Cofferdams and Compressed Air) from the scope of this proposed standard. Employers operating under one of the three listed exemptions are not required to follow this proposed standard for work within a confined space. Employers who hire contractors to perform work covered by these three standards also are excluded from coverage under this proposed standard. The reason for these exclusions is that the Agency believes that the existing OSHA requirements applicable to these activities are sufficient to address and protect employees from the confined-space hazards in those situations.

Paragraph (c). This provision would require employers, when an activity is covered under both the scope of this proposed standard and the provisions in another OSHA construction standard related to confined-space hazards, to comply with those provisions as well as the applicable provisions in this proposed standard. For example, while subpart D in 29 CFR part 1926 contains requirements for ventilation when working in potentially hazardous atmospheric conditions, it does not address other equipment or workplace conditions that are covered by this proposed standard. Also, some construction standards require the use of specified systems during operations in a confined space, but do not set criteria that those systems must meet; in these cases, the requirements of both the existing construction standard and this proposed standard would apply. For example, 29 CFR part 1926 subpart J (Welding) requires that the employer provide a lifeline when an employee is welding in a confined space entered through a manhole or other small opening. When working in a PRCS, 29 CFR part 1926 subpart J also sets criteria for the use of a lifeline system in the confined space, but does not set criteria for the use of rescue services or provide any other permit-required space procedures to protect the employees. Under those circumstances, the rescue service and entry procedures must meet the requirements of this proposed standard, while the lifeline system would be required to meet the criteria in 29 CFR part 1926 subpart J.

Appendix A of the proposed standard contains a list of existing provisions found in other OSHA construction standards under 29 CFR part 1926 that address work done in confined spaces. This list contains only current construction provisions, and does not preclude the inclusion of future confined-space provisions. The purpose of the information in this appendix is to help employers easily identify other requirements relevant to confined-space hazards that may also have to be met.

Paragraph (d). This proposed provision clarifies that the duties of a controlling contractor specified in paragraph (a) of proposed § 1926.1204 are not exclusive. Proposed § 1926.1204(a) delineates a controlling contractor's duties with respect to the exchange of information concerning confined spaces with subcontractors on multi-employer worksites and does not limit or otherwise affect a controlling contractor's responsibilities under the OSH Act. See OSHA Directive No. CPL 2–00.124 (Dec. 10, 1999).

Section 1926.1203—Definitions

This proposed section lists definitions for key words used in describing the requirements of this proposed standard. Most of the definitions were adopted from the OSHA general industry confined-spaces standard (29 CFR 1910.146) and from the ANSI Z117.1–2003 confined-spaces standard. Many other terms in this proposed standard are defined in other OSHA construction standards, and were included in this proposed section to minimize the need to reference those other standards. While most of the proposed terms are self-explanatory or are consistent with those established in 29 CFR 1910.146 and ANSI 117.1–2003, OSHA believes that it is necessary to provide an expanded discussion for several terms used in this proposed standard. The expanded discussion provides a brief

explanation of the defined terms, justifies any differences between the proposed definitions and those contained in 29 CFR 1910.146 and ANSI 117.1–2003, and addresses comments received during the SBREFA process.

''Continuous System-Permit-Required Confined Space (CS-PRCS)'' is a Permit-Required Confine Space that has all of the following characteristics: Is part of, and contiguous with, a larger confined space (for example, sewers); the employer cannot isolate it from the larger confined space; and is subject to a potential hazard release from the larger confined space that would overwhelm personal protective equipment and/or hazard controls, resulting in a hazard that is immediately dangerous to life and health. This classification of space was mentioned in 29 CFR 1910.146(c)(5)(i), and a sample Permit-Required Space program for sewers was provided in Appendix C of that standard. OSHA believes it is important to define this classification of confined space in a way that emphasizes that it is subject to a potential hazard release, such as an engulfment hazard, that the employer will not be able to control.

''Controlled-Atmosphere Confined Space (CACS)'' is a confined space that has all of the following characteristics: Contains no physical hazards or only isolated physical hazards; and uses ventilation alone to control atmospheric hazards at safe levels. This term was added to designate a distinct type of confined space in which only one type of hazard (atmospheric) is present that requires a specific type of employee protection—active control of the atmospheric hazard at safe levels by ventilation equipment. OSHA believes that the space described by this definition is similar to the space defined by the alternate procedures specified by paragraph (c)(5) of the general industry standard for confined spaces. Both of these spaces involve conditions in which atmospheric hazards are merely controlled by ventilation instead of eliminated completely. Therefore, if the ventilation system stops or malfunctions, the atmospheric hazards could reemerge in the space. Unlike the general industry standard, the proposed standard for construction assigns a name to the space. OSHA believes that naming the space a Controlled-Atmosphere Confined Space will effectively alert employees, especially employees who have little or no experience with these spaces, to the possibility that atmospheric hazards could reemerge in the space if the ventilation system stops or malfunctions.

''Controlling contractor'' is the employer that has overall responsibility for construction at the worksite. In addition, the note to this definition explains that if a host employer has overall responsibility for construction at the worksite, then it is both a host employer and controlling contractor. It is a common practice in the construction industry for there to be a number of contractors working at a construction site at the same time. Also, there often is one contractor that has overall authority of the construction site, including the authority to change worksite conditions and alter work practices with regard to safety. Under this proposed standard, there are specific duties that would apply to the controlling contractor, as distinguished from the host employer and the contractor. Consequently, there is a need to define the term ''controlling contractor.''

For the purposes of this preamble, the term ''employer'' refers to an employer whose employees are exposed to confined-space hazards. Employers whose own employees are exposed to a hazard addressed by this proposed standard would be required to comply with the provisions that identify an obligation on ''the employer.'' In addition, other employers may also have responsibilities with respect to such provisions through operation of OSHA's multi-employer doctrine.

When a proposed provision designates the ''host employer'' as the entity responsible for the requirement, only an employer that meets the proposed definition of a ''host employer'' would be responsible for that requirement. Similarly, when a proposed provision designates the ''controlling contractor'' or the ''contractor'' as the entity responsible, only an employer meeting the proposed definitions of ''controlling contractor'' or ''contractor'' would be responsible for compliance with the provision. Note that an employer who fits the definition for more than one of these roles would be required to comply with the obligations that pertain to each role. The Agency requests public comment on whether this explanation is clear.

''Early-warning system'' is the method used to alert attendants monitoring a CS–PRCS and authorized entrants in a CS–PRCS 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. The Agency believes these systems will protect employees from non-isolated engulfment hazards by providing an effective means of warning attendants and authorized entrants that an engulfment hazard may be developing ''upstream'' of the work area, thereby permitting sufficient time for the authorized entrants to safely exit the CS–PRCS. As illustrated by the non-exclusive list of examples of early-warning systems within this definition, employers would have flexibility as to what type of early-warning system to use for continuously monitoring such engulfment hazards. However, as stated in paragraphs (a)(2) and (b)(2) of proposed § 1926.1215, whatever warning system is selected must alert authorized entrants and attendants in sufficient time for the authorized entrants to safely exit the CS–PRCS.

''Hazardous atmosphere'' means an existing or potential atmosphere consisting of at least one of the following: A flammable gas, vapor, or mist in excess of 10 percent of its lower flammable limit; an airborne combustible dust at a concentration that meets or exceeds its lower explosive limit; an atmospheric oxygen concentration below 19.5 percent (''oxygen deficient'') or above 23.5 percent (''oxygen enriched''); an airborne concentration of a substance that exceeds the dose or exposure limit specified by an OSHA requirement; and an atmosphere that presents an immediate danger to life or health. These levels duplicate those in the definition of ''hazardous atmosphere'' in the general industry confined-spaces standard. The definition clarifies that the concept of a hazardous atmosphere includes one that has a potential for becoming hazardous, since it is necessary to anticipate the potential occurrence of such hazards to effectively protect employees working in a confined space.

''Host employer'' owns or manages the property on which construction is taking place. As explained in the definition of ''controlling contractor,'' this definition was added to clarify the distinction between a ''host employer,'' a ''contractor,'' and a ''controlling contractor'' as each of these entities would have specific obligations under this proposed standard. (See, also, the discussion under ''controlling contractor'' above.)

''Inspection information'' means information obtained about a space from blueprints, schematics, and/or similar documents, documents regarding previous confined-space entries, or physical inspection/testing. This definition was added in response to SBREFA comments to clarify the types of documents and information that

would be considered relevant to making the hazard assessments required by this proposed standard without entering the space.

''Isolated-Hazard Confined Space (IHCS)'' is a confined space in which the employer has isolated all physical and atmospheric hazards. This classification differs from a ''non-permit space'' in the general industry standard that, by definition, does not include confined spaces that have the potential to contain atmospheric hazards capable of causing death or serious physical harm. The proposed classification of IHCS includes confined spaces where that potential continues to exist. In an IHCS, the potential exists because the atmospheric hazard is only ''isolated,'' which means that its release is only being prevented. The use of the term ''isolated'' in this context is consistent with the definition of ''isolation'' in the current American National Standard Institute (ANSI)/American Society of Safety Engineers (ASSE) standard titled ''Safety requirements for Confined Spaces,'' ANSI/ASSE Z117.1–2003. This ANSI/ASSE standard describes the isolation process in part as follows:

> Methods and means shall be selected and used to prevent flammable, toxic, irritating, or oxygen displacing gases and vapors from entering the space. All hazardous material, high pressure, high temperature and other piping that could reasonably be expected to introduce a hazard shall be isolated by utilizing blinding, disconnection, removal, or double block and bleed as needed to prevent entry of material(s) and hazardous contaminant(s).

''Limited or restricted means for entry and exit'' refers to a condition that has a potential to impede an employee's movement into or out of a space. Such conditions include, but are not limited to poor illumination, slippery floors, inclining surfaces and ladders. This phrase is used to describe one of the physical characteristics of a confined space and was defined to give the phrase greater clarity.

''Permit-Required Confined Space (PRCS)'' is a confined space that has any one of the following characteristics: A hazardous atmosphere; an inwardly converging, sloping, or tapering surfaces that could trap or asphyxiate an employee (for example, a space between walls that narrows towards the base, including, but not limited to, funnels and hoppers); or an engulfment hazard or other physical hazard. This definition is similar to the definition in the general industry standard, but includes more examples of dangerous configurations of confined spaces.

''Physical hazard'' means an existing hazard that can cause death or serious physical harm in or near a confined space, or a hazard that has a reasonable probability of occurring in or near a confined space, and that includes, but is not limited to: Explosives (as defined by paragraph (n) of 29 CFR 1926.914 (definition of ''explosive'')); mechanical, electrical, hydraulic, and pneumatic energy; radiation; temperature extremes; engulfment; noise; and inwardly converging surfaces. ''Physical hazard'' also refers to chemicals that can cause death or serious physical harm through skin or eye contact (rather than through inhalation). This definition was added to help employers better understand the characteristics of this type of hazard.

''Planned conditions'' are the conditions under which authorized entrants can work safely in a PRCS or CS–PRCS, including both hazard levels and methods of employee protection. The Agency considered using ''acceptable entry conditions,'' the term used in the general industry standard, for this concept. However, OSHA is concerned that employers and employees, especially those who are not often engaged in construction work in confined spaces, may think ''acceptable'' means that conditions are safe for entry without the use of personal protective equipment or other protective measures. OSHA believes that the term ''planned conditions'' more accurately expresses the concept that a variety of actions may be needed, including the use of protective measures, for employees to be able to work safely in the confined space.

''Serious physical harm'' means an impairment in which a body part is made functionally useless or is substantially reduced in efficiency. Such impairment may include loss of consciousness or disorientation, and may be permanent or temporary, or chronic or acute. Injuries involving such impairment would usually require treatment by a physician or other licensed health-care professional while an illness resulting in serious physical harm could shorten life or substantially reduce physical or mental efficiency by impairing a normal bodily function or body part. OSHA adapted this definition of ''serious physical harm'' from its Field Inspection Reference Manual, chapter III, section C.2.b(2)(c).

''Simulated Permit-Required Confined Space'' is a confined space or a mock-up of a confined space that has all of the following characteristics: Similar entrance openings, and is similar in size, configuration, and accessibility, to the PRCS the authorized entrants enter but does not need to contain any physical or atmospheric hazards. This definition was included to emphasize that the Simulated PRCSs do not have to contain actual physical or atmospheric hazards to qualify for the training required by this proposed standard. OSHA proposes this clarification to prevent injuries and deaths from occurring during rescue training.

Section 1926.1204—Worksite Evaluation, Information Exchange, and Coordination

Paragraph (a). This paragraph sets forth requirements for exchanging information relevant to construction operations in confined spaces. Controlling contractors and host employers would have to share four pieces of information (listed below) before any employee enters the confined space. This information addresses such issues as: location of confined spaces, hazardous conditions affecting confined spaces, precautions taken to address those hazards, and classifications of the confined spaces. OSHA notes, however, that the proposed standard only places a duty on controlling contractors and host employers to provide any information they already have about the confined spaces specific to their worksite. The Agency makes clear in this proposed paragraph that ''[n]either the controlling contractor nor the host employer is required to obtain the information listed * * *''; their only obligation is to provide their contractors with information they already have about a confined space. OSHA also states in a note to this proposed paragraph that controlling contractors or host employers are not required to enter a confined space to collect the relevant information.

On most construction worksites, there are a number of contractors and subcontractors performing jobs. In the case of confined spaces, sometimes employees of different employers will be performing work within the same confined space. In many instances, employees of a subcontractor will enter a confined space after another subcontractor's employees have completed work within the space. On multi-employer worksites, an employer's actions can affect the health and safety of another employer's employees. It is critical for the safety of all employees on a worksite that contractors and subcontractors communicate with each other. Requiring communication between employers is an efficient way to ensure that each employer learns important information about the confined space hazards present so that all employees are adequately protected. OSHA is proposing these information-sharing

requirements in proposed § 1926.1204 so that construction worksites with confined spaces remain safe places of employment for all employees.

The Agency has clear authority to include these multi-employer provisions in the standard. First, the plain language of the OSH Act and its underlying purpose support OSHA's authority to place requirements on employers that are necessary to protect the employees of others. Second, congressional action subsequent to passage of the OSH Act recognizes this authority. Third, OSHA has consistently interpreted its statutory authority as permitting it to impose obligations on employers that extend beyond their own employees, as evidenced by the numerous standards, including several construction standards, that OSHA has promulgated with multi-employer provisions. Finally, OSHA's authority to place obligations on employers that reach beyond an employer's own employees has been upheld by numerous courts of appeals and the Occupational Safety and Health Review Commission (OSHRC).

The purpose of the Act is to assure so far as possible safe and healthful working conditions for every working man and women in the nation. 29 U.S.C. 651(b). To achieve this goal, Congress authorized the Secretary to establish mandatory occupational safety and health standards. The Act broadly defines an OSHA standard as a rule that ''requires conditions, or the adoption or use of one or more practices, means, methods, operations, or processes, reasonably necessary or appropriate to provide safe or healthful employments and places of employment.'' 29 U.S.C. 652(8). *See Building and Constr. Trades Div., AFL-CIO* v. *Brock,* 838 F.2d 1258, 1278 (DC Cir. 1988). OSHA standards must prescribe measures that are appropriate to protect ''places of employment''; nothing in the statutory language suggests that OSHA may do so only by regulating an employer's interaction with its own employees. On the contrary, the Act's broad language gives OSHA almost ''unlimited discretion'' to devise means to reach the statutory goal. *See United Steelworkers* v. *Marshall,* 647 F.2d 1189, 1230 (DC Cir. 1980), cert. denied, 453 U.S. 913 (1981).

Similarly, Section 5(a)(2) provides that each employer ''shall comply with occupational safety and health standards promulgated under this Act.''[2] Nothing in this language suggests that compliance is required only when necessary to protect the employers' own employees, or that the employer is entitled to endanger other employers' employees at the worksite. Finally, Section 6(b)(7) of the Act authorizes the Secretary to ''prescribe the use of labels or other appropriate forms of warning as are necessary to insure that employees are apprised of *all* hazards to which they are exposed.'' 29 U.S.C. 655(b)(7) (emphasis added). Again, this authority is not limited to labels that would warn the employer's own employees of the hazard. Given the distribution of potentially hazardous products in commerce, employees are predictably exposed to hazardous conditions created by other employers. Requiring employers to include hazard information needed by downstream employees is a necessary and appropriate means to ensure that the employees are apprised of all hazards to which they are exposed.

In short, the statute focuses on workplace conditions to effectuate the OSH Act's congressional mandate, and not on a particular employment relationship. The OSH Act's underlying purpose is broad—to assure safe and healthful working conditions for working men and women—and Congress made clear that it expected the Act to protect all employees. (H. Rep. No. 91–1291, 91st Cong., 2d Sess., p. 14–16 (July 9, 1970)). Numerous references in the legislative history of the Act require employers to provide a safe and healthful ''place of employment'' (*see, e.g.*, S. Rep. No. 91–1282, 91st Cong., 2d Sess., p. 10 (October 6, 1970)). The OSH Act tasks OSHA with promulgating rules that will create safe places of employment, notwithstanding the many varied employment relationships that might exist at a worksite.

Subsequent congressional action has also recognized OSHA's authority to impose responsibilities on employers to protect employees who are not their own. For example, Congress directed OSHA to develop a chemical process safety standard (the PSM standard) requiring employers to ''ensure contractors and contract employees are provided appropriate information and training'' and to ''train and educate employees and contractors in emergency response.'' (29 U.S.C. note) (quoting Pub.L. 101–549, Title III, Section 304, November 15, 1990, 104 Stat. 2576). This is a clear ratification of the Agency's authority to require employers to protect the employees of others. Congress also approved of the Agency's authority when it relied on the provisions of OSHA's Hazard Communication standard in promulgating the Emergency Planning and Community Right-to-Know Act (42 U.S.C. 11001–11050) (EPCRA). OSHA's Hazard Communication standard, among other things, requires a manufacturer of a hazardous chemical to ''inform not only its own employees of the dangers posed by the chemicals, but downstream employers and employees as well.'' *Martin* v. *American Cyanamid Co.,* 5 F.3d 140, 141 (6th Cir. 1993). Congress incorporated provisions of the Hazard Communication standard in EPCRA as a basis for triggering obligations on owners or operators of facilities producing hazardous chemicals to provide local governments with information needed for emergency response. Had Congress not approved of the multi-employer provisions in the Hazard Communication standard, it would not have approved of it as a basis for obligations in the EPCRA.

Furthermore, OSHA has consistently interpreted the OSH Act as authorizing it to impose multi-employer obligations in its standards. In addition to the Hazard Communication standard and PSM standard discussed above, OSHA included multi-employer provisions in its powered platforms standard, which requires that a building owner inform employers that the building installation has been inspected and is safe to use. 29 CFR 1910.66(c)(3). OSHA has also imposed multi-employer obligations in other construction standards. For example, in the construction asbestos standard, OSHA requires building owners/employers to perform initial monitoring for asbestos and to communicate the presence of asbestos or presumed asbestos containing materials to prospective employers whose employees reasonably can be expected to work in exposed areas. 29 CFR 1101(k)(2). In the recently promulgated steel-erection standard, OSHA imposed duties on controlling contractors to ensure that site conditions are safe for steel erection. 29 CFR 1926.752(c). OSHA just recently proposed in updates to its electric-power transmission and distribution construction standard similar multi-employer communication provisions. *See* 70 FR 34947–48. OSHA's inclusion of multi-employer provisions in this proposed rule is fully consistent with its past practice of ensuring the safety and

[2] This language is in marked contrast to the language of Section 5(a)(1) of the Act (known as the ''general duty clause''), which requires each employer to ''furnish *to each of his employees* employment and a place of employment which are free from recognized hazards that are causing or are likely to cause death or serious physical harm *to his employees.*'' 29 U.S.C. 654(a)(1) (emphases added). *See Brennan* v. *OSHRC,* 513 F.2d 1032, 1037–38 (2nd. Cir. 1975).

health of all employees at construction worksites.

Finally, OSHA's authority to impose these provisions is confirmed by the decisions of numerous courts of appeals and the Occupational Safety and Health Review Commission holding that an employer's duties and OSHA standards may extend beyond an employer's own employees. *See Universal Constr. Co.* v. *OSHRC,* 182 F.3d 726, 728 (10th Cir. 1999) (following decisions from Second, Sixth, Seventh, Eighth and Ninth Circuits); *Access Equip. Sys.,* 18 BNA OSHC 1718, 1722–24 (No. 95–1449, 1999). But see *Melerine* v. *Avondale Shipyards, Inc.,* 659 F.2d 706 (5th Cir. 1981). The DC Circuit suggested in *Anthony Crane Rental, Inc.* v. *Reich,* 70 F.3d 1298, 1306 (DC Cir. 1995), however, that 29 CFR 1910.12(a)—a rule promulgated by OSHA to adopt Construction Safety Act (CSA) standards as OSHA standards—might limit an employer's obligations under the construction standards in part 1926 to its own employees. The court did not reach the issue, noting that the parties had not briefed it. The proposed confined-spaces in construction standard will be included in part 1926 § 1910.12(a) is consistent with the promulgation of requirements that place obligations on employers necessary to protect the employees of others. The provision states:

> The standards prescribed in part 1926 of this chapter are adopted as occupational safety and health standards under section 6 of the Act and shall apply, according to the provisions thereof, to every employment and place of employment of every employee engaged in construction work. Each employer shall protect the employment and places of employment of each of his employees engaged in construction work by complying with the appropriate standards prescribed in this paragraph.

The language of the provision supports OSHA's interpretation that an employer's responsibilities can extend beyond the employer's employees. The first sentence makes the construction standards applicable to every employment and to every ''place of employment'' of every construction employee. This is broad language that does not limit an employer's obligations to its own employees. The second sentence, by providing that each employer must protect the employment and the places of employment of each of his employees, does not limit an employer's obligations to only protecting his or her employees and does not negate the broad reach of the first sentence. The two sentences, read together, require employers to comply with standards at all sites where they are working in order to protect employees who are predictably present at those sites.

The sole purpose of the provision was to ''adopt and extend'' existing Construction Safety Act (CSA) standards applicable under the OSH Act. 29 CFR 1910.11. Under the CSA, standards applied only to employers with Federally funded contracts, and only with respect to employees engaged on those Federal projects. *See* 29 CFR part 1926 Subpart B; *CH2M Hill, Inc.* v. *Herman,* 192 F.3d 711, 718 n.1 (7th Cir. 1999). The function of 29 CFR 1910.12(a) was to adopt the CSA standards as OSHA standards and in so doing to make it clear that neither of those limitations would apply. Thus, OSHA stressed that compliance would broadly extend to *each* construction employer (not just those with Federal contracts) and to *every* construction employee (not just those working on Federal projects). In no way did OSHA intend for the language of 29 CFR 1910.12(a) to restrict its authority to promulgate construction standards that establish obligations extending beyond an employer's own employees.

Other factors confirm that OSHA had no intention in § 1910.12(a) to bar multi-employer responsibilities under the construction standards. OSHA issued the regulation without notice and comment under Section 6(a) of the Act. That section provided authority only to adopt established federal standards, such as the CSA standards, without making any substantive changes. *Usery* v. *Kennecott Copper Corp.,* 577 F.2d 1113 (10th Cir. 1977). The CSA regulations did not limit multi-employer responsibilities; the regulations expressly provided for them. 29 CFR 1926.16. OSHA could not have intended to limit statutory obligations in an action under Section 6(a).

Moreover, concurrently with issuance of § 1910.12(a), OSHA issued its initial Field Operations Manual, which expressly directed issuance of citations to construction employers who created a hazard endangering their own employees or those of another employer. The Agency has also consistently promulgated rules in 29 CFR part 1926 that expressly extend employers' obligations beyond their own employees. The requirements in proposed § 1926.1204 reflect this consistent interpretation and will ensure that *all* employees on construction worksites are protected from the hazards of confined spaces.

The Occupational Safety and Health Review Commission's recent decision in *Secretary of Labor* v. *Summit Contractors* (OSHRC Docket No. 03–1622 (April 27, 2007), has no application to this proposed rule. In *Summit,* a divided Review Commission vacated citations issued to a controlling employer for violations of a construction standard. The two Commissioners who joined in this result issued separate opinions; each read § 1910.12(a) as establishing a limitation on the Agency's authority to hold controlling employers accountable for violations. OSHA believes this view is mistaken, and has appealed the OSHRC decision to the U.S. Court of Appeals (8th Cir. No. 07–2191).

Moreover, *Summit* has no bearing on the duties established under the proposed rule. The *Summit* opinions interpreted OSHA's intent under then existing rules. They did not question OSHA's authority under the Act to establish multi-employer obligations through rulemaking. OSHA is exercising its authority under Section 6(b) to issue this proposed rule, and nothing in § 1910.12(a) limits an employer's compliance obligations under the rule.

Paragraph (a)(1). The host employer and/or controlling contractor would be required to provide information to contractors that it has about the location of each space that it actually knows is a confined space at the worksite. If the host employer or controlling contractor does not have this information, it is not required by this proposed provision to obtain it. For example, if the locations of confined spaces were obtained by the host employer or controlling contractor while its own employees had worked in or near the spaces, or if it obtained the location of a confined space from other contractors who worked in or near the spaces, that information must be shared with the next employer it contracts to work in or near those confined spaces.

Paragraph (a)(2)(i). For each confined space identified in paragraph (a)(1) above, the host employer and controlling contractor would be required to inform the contractor of any hazards in or near the space that the host employer or controlling contractor knows about. These may be known atmospheric or physical hazards. Examples of these include, but are not limited to: atmospheric contaminants; the presence of energized electrical conduits; construction operations performed near the confined space that may result in a ruptured sewer line; or the existence of construction work that may cause the confined space to collapse. If the host employer or controlling contractor does not have this information, it is not required by this proposed provision to obtain it.

Paragraph (a)(2)(ii). The host employer and/or controlling contractor

would be required to provide information that it has to the contractor about the classifications of previously classified confined spaces on the worksite. For example, if the host employer or controlling contractor knows that an employer had previously classified an electrical vault as an Isolated-Hazard Controlled Space (IHCS), the controlling contractor would have to provide that information to the next employer that it contracts to do work in or near that space. However, if the host employer or controlling contractor does not have this information, it is not required by this proposed provision to obtain it.

During the SBREFA process, some small-business representatives expressed the concern that, as a result of having this provision in the draft proposed standard, some controlling contractors would require the contractor to classify all confined spaces as PRCSs, including those that could be classified as IHCSs or CACSs. This proposed provision would not require the contractor to base its classification determination solely on a previous classification that it learned of from a host employer or controlling contractor. The contractor is responsible, under other sections of the proposed standard, for properly classifying the space; the information provided to the contractor under this proposed paragraph may assist the contractor in making the classification. However, this proposed standard would not preclude a controlling contractor from requiring a contractor, for example, to apply a higher level classification to confined spaces than the level required under the proposed standard.

Paragraph (a)(2)(iii). The host employer and controlling contractor would be required to share with all contractors who work inside a confined space the precautions and procedures, if any, it previously implemented to enter that confined space. However, this proposed provision does not require the host employer or controlling contractor to develop entry programs for its contractors. Also, it is not mandatory for a host employer or controlling contractor to provide previously implemented confined-space entry procedures that are not applicable to the space(s) the contractor must enter (that is, entry procedures used for a different space.)

Paragraph (b). The contractor would be required to first determine what spaces are confined spaces and, if so, whether they are subject to any hazards. Provisions (b)(1) through (b)(4) of this proposed section spell out the procedures for making these assessments. The Agency believes that these procedures are necessary to ensure that the spaces are correctly assessed and to ensure that the employees are protected while conducting the assessments.

Paragraph (b)(1). The contractor would be required to consider information provided by the host employer and controlling contractor (if any), and the contractor's own inspection information (see following paragraph), to determine if the space is a confined space and, if so, if there are any physical or atmospheric hazards. OSHA believes that information obtained from the host employer or controlling contractor would be useful to contractors because it often would be based on work previously done safely within the affected space. Except as noted in paragraph (b)(2) of this proposed section, this initial evaluation must be done without entry into the space by the contractor or their employees.

Paragraph (b)(2). In some cases it may not be feasible to make the required determinations about the space and hazards without entering the space. When the contractor can demonstrate that obtaining the information without entering the space is infeasible, employees may enter, but only to inspect for that information. In doing so, an employer must ensure that any employee entering the unclassified space meets the requirements of proposed §§ 1926.1208 through 1926.1214 for Permit-Required Confined Spaces and, if applicable, proposed § 1926.1215 for Continuous System-Permit-Required Confined Spaces.

Entry into the space before identifying its hazards is potentially dangerous; therefore, OSHA believes it is reasonable to require contractors to be able to demonstrate that a proper assessment of the space without entry is infeasible before employees are allowed to enter. This proposal calls for contractors to follow the entry requirements of a PRCS (or, where applicable, a CS–PRCS) in these situations because, with the hazards as yet undetermined, taking these precautions will ensure the safety of the employees.

Paragraph (b)(3). The contractor would have to determine if there are any atmospheric hazards in the confined space. It would be required to comply with proposed § 1926.1205 (Atmospheric testing and monitoring) below to properly perform atmospheric testing and monitoring. In following proposed § 1926.1205, all testing of the internal atmosphere of the confined space must be done without use of mechanical ventilation or changes to the space's natural ventilation. This is to ensure that the natural atmospheric conditions within the space are assessed for hazards that may affect those employees working in the space.

Paragraph (b)(4). Contractors would be required to meet applicable OSHA requirements, including training requirements, for the use of personal and other protective equipment required by paragraph (c)(2) of proposed § 1926.1213. The training would ensure, as applicable, that the employees have the understanding, knowledge, and skills necessary to use the personal and other protective equipment effectively.

Paragraph (c). This proposed paragraph sets forth the information-exchange requirements for contractors who classify a space as a PRCS, CS–PRCS, CACS, or IHCS.

Paragraph (c)(1). Contractors would have to inform the host and controlling contractor of the procedures the contractors will follow for entry into the space. This proposed requirement will enable the host employer and controlling contractor to provide this information to other contractors who enter the space. Such information would help other contractors in planning their safe entry procedures.

Paragraph (c)(2). When contractors classify a space as a PRCS, CS–PRCS, CACS, or IHCS, they would be required, at the conclusion of entry operations, to inform the host employer and controlling contractor employer about any hazards that were present or that developed during the entry operations. This information would be useful to other employers that the host employer and controlling contractor contracts to do work within the space since it would be relevant to their hazard assessments of the space. OSHA believes that the host employer and controlling contractor are in the best position to disseminate this information to other affected employers on the site.

Paragraph (d). The controlling contractor would be required to coordinate confined-space entry operations when multiple contractors will have employees working within the confined space at the same time. The Agency believes that the controlling contractor is in the best position to ensure adequate coordination between contractors whose work (and associated hazards) may affect one another. Note that this proposed paragraph does not specify any particular process by which the controlling contractor would coordinate entry operations. The purpose of this proposed provision is to ensure that employees are protected from hazards that could result from a

lack of coordination between contractors in the space. This paragraph works in concert with the requirements of paragraph (c)(1) of this proposed section, which specifies that contractors must inform the controlling contractor and host employer of their precautions and entry procedures. The controlling contractor can use this information to coordinate the entry operations performed by multiple contractors in or near a confined space to ensure the safety of employees.

Paragraph (e). This proposed paragraph addresses employee participation and notification, and would require the employer to provide its employees who enter a confined space, and their authorized representatives, an opportunity to observe evaluations of the confined space performed under paragraph (b) of this proposed section, reassessments conducted under proposed § 1926.1207 (Reassessment), and any atmospheric testing and monitoring required by this proposed standard. This proposed paragraph does not require employees and their authorized representatives to observe the specified activities; however, it provides employees and their authorized representatives with the option of observing should they choose to do so. OSHA believes that allowing employees and their authorized representatives to participate in this manner will contribute to the successful implementation of safe entry operations by enhancing their awareness of the hazards present in the confined space.

Section 1926.1205—Atmospheric Testing and Monitoring

This proposed section prescribes minimum procedures for atmospheric testing and monitoring that employers would be required to perform to adequately assess the atmospheric conditions which exist within a confined space. Information of this type is vital to the identification of atmospheric hazards within the space, and is also needed to make accurate determinations for later classification of the space. Maintaining safe atmospheric conditions is essential to the safety of all employees working in the space.

Paragraph (a). Employers would be required to test or monitor a confined space for certain atmospheric hazards in a specific order (oxygen deficiency, combustible gases and vapors, and toxic gases and vapors) unless they test or monitor these hazards simultaneously, and for other atmospheric hazards specified in applicable OSHA requirements (such as those in other OSHA standards). Employers must test or monitor for oxygen deficiency, combustible gases and vapors, and toxic gases and vapors because these are well-recognized atmospheric hazards in confined spaces (see discussion of atmospheric hazards in the general industry final rule for confined spaces at 58 FR 4465). Employers must continue to test or monitor the confined-space atmosphere while employees are operating in the space.

The Agency adopted the requirement to test or monitor for oxygen deficiency, combustible gases and vapors, and toxic gases and vapors in this specific order (unless employers test or monitor these atmospheric hazards simultaneously) from the general industry and the ANSI Z117.1–2003 confined-spaces standards. The preamble to the final general industry confined-spaces standard noted that this procedure represents generally accepted safe work practices, and explained the specified order as follows:

> A test for oxygen must be performed first because most combustible gas meters are oxygen dependent and will not provide reliable readings in an oxygen deficient atmosphere. In fact, the Johnson Wax Company (Ex. 14–222) stated that ''there is [a] specific (sensor dependent) oxygen level below which the combustible gas sensor will *not* respond at all [emphasis was supplied in original].'' Combustible gases are tested for next because the threat of fire or explosion is both more immediate and more life threatening, in most cases, than exposure to toxic gases.

(58 FR 4499.) OSHA remains convinced that the priority assigned to testing or monitoring atmospheric hazards by this proposed provision remains valid, and is critical to the health and safety of employees involved in confined-space operations.

Monitoring must be done periodically and as necessary unless other provisions of this proposed standard or other OSHA requirements specify differently. ''As necessary'' refers to the monitoring reasonably required to detect atmospheric hazards. Some factors that may affect frequency are: results of tests allowing entry; regularity of entry (daily, weekly, or monthly); effectiveness of previous monitoring activity; and knowledge of the hazards that affect the confined space. Monitoring must be of a frequency and performed in a manner sufficient to protect employees operating in confined spaces from atmospheric hazards.

Paragraph (b). Employers would have to provide medical facilities that treat employees exposed to certain atmospheric hazards (those hazards that could cause an immediate threat to life and health) with information the employer is required to keep under proposed § 1926.1219 (Records) regarding such hazards; if the exposure involves a chemical hazard described by a Material Safety Data Sheet (MSDS) that the employer must maintain at the job site under 29 CFR 1910.1200 (Hazard Communications), the employer must ensure that the medical facility receives the MSDS as well. The information must be provided to the treating medical facilities as soon as is practical after the exposure. Employers can comply with this proposed provision by having that information accompany the employee to the medical facility or by providing it to the facility as soon as practicable after the employee's arrival there.

The Agency recognizes that such information may already be available to medical facilities from other sources (such as state emergency-planning commissions), and that MSDSs or similar written information may not be available in some instances. However, OSHA believes that it would be reasonable and prudent to require employers to provide MSDSs or other written information to a treating medical facility when such MSDSs or other similar written information already is required to be kept at the worksite; for example, as noted earlier, the Agency's Hazard Communication standard at 29 CFR 1910.1200 may require construction employers to keep MSDSs at the job site. Such information may significantly help the medical facility correctly diagnose and treat the employee.

Section 1926.1206—Classification and Precautions

This proposed section would require an employer to use the information about the space that it obtained under proposed § 1926.1204 (Worksite evaluation, information exchange, and coordination) and classify the confined space(s) in which their employees will be working. The employer must then follow the precautions and safety procedures listed in the applicable section. The classifications are: Continuous System-Permit-Required Confined Space (CS–PRCS); Permit-Required Confined Space (PRCS); Controlled-Atmosphere Confined Space (CACS); and Isolated-Hazard Confined Space (IHCS).

Paragraph (a). This proposed paragraph lists the elements of a Continuous System-Permit-Required Confined Space (CS–PRCS). A ''confined space,'' as defined in proposed § 1926.1203 (Definitions applicable to this subpart), would be classified as a CS–PRCS if it has all the

elements listed in paragraphs (a)(1) through (a)(3) of this proposed section. Such spaces would be protected in accordance with the safety provisions and procedures specified by proposed §§ 1926.1208 through 1926.1215. The Agency believes that employees in this type of space are vulnerable to hazards that can migrate from a larger, contiguous confined space and overwhelm personal protective equipment and/or hazard controls, resulting in a hazard that is immediately dangerous to life and health. For example, employees in one part of a sewer system could be drowned by an unexpected flow of water from upstream in the system. Therefore, a means of warning the employees needs to be in place to protect them.

Paragraph (a)(1). The first element of a CS–PRCS is that the confined space is part of, and contiguous with (connects or contacts), a larger confined space—irrespective of whether the larger space is a CS–PRCS, an Isolated-Hazard Confined Space (IHCS), a Controlled-Atmosphere Confined Space (CACS), or a Permit-Required Confined Space (PRCS). The space to be classified must be contiguous with part of the larger system. For example, if an employer were to perform work in a section of a sewer system, that section would be considered part of and contiguous with a larger space (the entire sewer). As such, it would meet this element.

Paragraph (a)(2). The second element of a CS–PRCS is that the space is not isolated from the larger confined space. In the context of this proposed paragraph, the term ''isolated'' means completely sealed off from the larger space such that passage of the hazards from the larger space is impossible.

Paragraph (a)(3). The third element of a CS–PRCS is that the space is subject to a potential hazard release from the larger confined space that would overwhelm personal protective equipment (PPE) and/or hazard controls used in the space. In this context, ''overwhelm'' means that the PPE and/or hazard controls would not be able to cope with the hazard and would not protect employees, posing an immediate danger to the life and health of any employee working in the space. An example would be where employees are in a confined space that is contiguous with a sewer and the water level in the space is being maintained at a safe level with pumping equipment. However, the pumping equipment could not maintain that safe level if there were a surge of storm water from the sewer.

Paragraph (b). For confined spaces other than CS–PRCSs, the employer would have the flexibility to use a PRCS, CACS or IHCS classification, as long as the applicable classification requirements are met. The elements of each classification are in proposed §§ 1926.1208 (PRCS), 1926.1216 (CACS), and 1926.1217 (IHCS). OSHA had planned on proposing that the employer be required to classify the space to the ''lowest'' classification possible (that is, as an IHCS or, if that was not possible, then as a CACS, and if that was not possible, then as a PRCS). However, one of the recommendations that resulted from the SBREFA review process was that OSHA should consider allowing employers greater flexibility in this regard. The Agency has decided that allowing flexibility in choosing the classification will increase compliance with the standard, and has, therefore, allowed for flexibility in this proposed provision.

Paragraph (c). The employer would be required to meet the accident-prevention and -protection requirements applicable to the confined space as classified. The employer would have to meet those requirements before any employee enters the space. The accident-prevention and -protection requirements for each classification are in proposed §§ 1926.1208 through 1926.1214 (PRCS), 1926.1215 (CS–PRCS), 1926.1216 (CACS), and 1926.1217 (IHCS). The Agency structured the proposed standard in this way so that the accident-prevention and -protection requirements would be tailored specifically to the space classification being used. OSHA believes that this approach will both ensure the protection necessary for the employees and give the employers some flexibility in selecting the classification.

Section 1926.1207—Reassessment

Paragraph (a). This proposed paragraph would require employers to reassess the determinations made in proposed § 1926.1204 (Workplace evaluation, information exchange, and coordination) for a confined space that the contractor had previously determined did not contain any atmospheric or physical hazards when there is an indication that the conditions under which the determinations were made have changed. The Agency believes that this is necessary because conditions around and within confined spaces may change, especially when construction activities are performed around or within it. Consequently, when indications of changes in the previous conditions arise, and to ensure that employees are protected, it is necessary to conduct a reevaluation of the confined space. Such indications include but are not limited to: (1) A change in the configuration or use of, or the type of work conducted or materials used in, the confined space; (2) new information regarding a hazard in or near a confined space; and (3) an employee or authorized representative provides a reasonable basis for believing that a hazard determination is inadequate. OSHA believes that, to ensure the safety of the employees, if any of these three indications occur it is necessary to check to see if new hazards have arisen in the confined space.

Paragraph (b). When an employer has made a determination under proposed § 1926.1204 (Workplace evaluation, information exchange, and coordination) that a confined space was subject to a hazard and the employer implemented protective measures and procedures, the employer would be required to reassess its confined space worksite operations and procedures if there is an indication that those measures may not protect employees working in or near the confined space. This proposed provision lists seven examples of indications that would require the contractor to reassess the confined space in light of the triggering event or new information. These events include, but are not limited to: (1) A change in the configuration or use of, or the type of work conducted or materials used in, the confined space; (2) new information regarding a hazard in or near a confined space; (3) an employee or authorized representative provides a reasonable basis for believing that a hazard determination or protective measure is inadequate; (4) an unauthorized entry into a PRCS; (5) detection of a hazard in or near a PRCS that is not addressed by the entry permit; (6) detection of a hazard level in or near a PRCS that exceeds the planned conditions specified in the entry permit; and (7) the occurrence, during an entry operation, of an injury, fatality or near-miss.

While some specified events, such as the presence of a new hazard in or near the confined space, detection of a hazard not covered by the entry permit, or detection of a hazard that exceeds acceptable levels (see paragraphs (b)(2), (b)(5), and (b)(6) of this proposed section, respectively) may necessitate a full physical and atmospheric retest of the space, full retesting would not be required in all cases. For example, it is unlikely that the unauthorized entry into a space (paragraph (b)(4) of this proposed section) or an accident unrelated to any atmospheric hazard (paragraph (b)(7) of this proposed section) would necessitate a complete review of the atmospheric conditions in the confined space. OSHA recognizes

that while working in a confined space, the environment and/or working conditions may change as a result of unforeseen occurrences. As such, the employer must identify the need for a reassessment of the hazards and working conditions based on changes that may adversely affect safety or health in the confined space.

The indicators specified in paragraphs (b)(1) through (b)(7) of this proposed section are not meant to be a comprehensive list; rather, these indicators are likely or common events that would require a reassessment. The employer also would be required to conduct a reassessment where other, unlisted conditions occur that indicate a need to reassess the effectiveness of hazard controls used in the space.

Paragraph (c). This proposed paragraph specifies the requirements for reassessing a confined space. Prior to performing a reassessment, the contractor must ensure that all employees exit the confined space immediately. The proposed provision also requires the contractor to ensure that no employee reenters the space until the contractor identifies the physical and atmospheric hazards in accordance with paragraph (b) of proposed § 1926.1204; follows the classification procedures specified by proposed § 1926.1206 (Classification and precautions); and meets the accident-prevention and -protection requirements applicable to the space classification selected by the contractor before any employee reenters the space.

The Agency believes this proposed requirement is necessary because once an emergency occurs, the protective systems in place in the PRCS can no longer be relied on to protect the entrants; their safety then depends on their immediately getting out of the PRCS. The Agency also believes that this proposed requirement is necessary to ensure that the: spaces are correctly assessed; employees are protected while conducting a reassessment; and employees receive appropriate protection prior to reentering the confined space.

Section 1926.1208—Permit-Required Confined Spaces

This proposed section would establish (1) the criteria for identifying and classifying a Permit Required Confined Space (PRCS), and (2) the basis for defining the conditions that would enable authorized entrants to work safely in the PRCS (the planned conditions).

Paragraph (a). This proposed paragraph specifies the classification requirements for PRCSs.

Paragraph (a)(1). This proposed paragraph lists several characteristics of PRCSs as defined in proposed § 1926.1203 (Definitions applicable to this subpart): a hazardous atmosphere; inwardly converging, sloping, or tapering surfaces that could trap or asphyxiate an employee; or an engulfment hazard or other physical hazard. The presence of any one of these characteristics in a confined space would require the employer to identify and classify it as a PRCS. For example, a space between walls that narrows towards the base (including but not limited to, funnels and hoppers) would be a PRCS.

Paragraph (a)(2). This proposed paragraph sets forth the requirements regarding physical and atmospheric hazards in PRCSs.

Paragraph (a)(2)(i). In this proposed provision, for each physical hazard identified under paragraph (b) of proposed § 1926.1204, the employer would have to design either an isolation method or use another method of protecting employees from each hazard. The means and methods designed by the employer must meet applicable OSHA requirements. For example, if the confined space contains a physical hazard associated with electrical equipment, the means of isolation or protection must comply with the appropriate OSHA electrical standard (e.g., 29 CFR part 1926 subpart K (Electrical)).

Paragraph (a)(2)(ii). In this proposed provision, for each atmospheric hazard identified under proposed 29 CFR 1926.1205 (Atmospheric testing and monitoring), the employer must isolate or control the atmospheric hazards within the PRCS by either: (1) Ensuring that these hazards are reduced to a safe level [3] in the space without the use of personal protective equipment (PPE) (see, for example, 29 CFR 1926.55, 1926.152, 1926.1100 through .1152); or (2) using PPE to protect the employees from the hazard. For example, for non-explosive atmospheric hazards (such as oxygen deficiency or toxic atmosphere), if the employer does not reduce the hazard in the space to a safe level, the method used to protect the employees must include PPE that is sufficient to protect them in accordance with OSHA requirements applicable to the hazard.

OSHA initially considered requiring employers to isolate all hazards and meet the accident-prevention and -protection requirements of proposed § 1926.1217 (Isolated-hazard confined spaces—classification and accident-prevention and -protection requirements) unless they could demonstrate that isolation of a hazard is infeasible. When employers could demonstrate that they could only isolate physical hazards but not atmospheric hazards, they would have to control the atmospheric hazard and protect their employees in accordance with proposed § 1926.1216 (Controlled-atmosphere confined spaces—classification and accident-prevention and -protection requirements). Only when they could not isolate or control a hazard could employers use personal protective equipment (PPE) to meet the requirements of proposed §§ 1926.1208 through 1926.1214 and 1926.1215 (requirements for PRCSs and Continuous System-PRCSs). However, during the SBREFA process, several Small Entity Representatives (SERs) noted that they and their controlling contractors prefer to classify all confined spaces as PRCSs, thereby providing consistency in training and equipment when working in confined spaces.

OSHA's initial position was consistent with other OSHA standards such as 29 CFR 1926.55 (Gases, Vapors, Fumes, Dusts, and Mists), which require employers to eliminate hazards first using engineering and work-practice controls, and only then with PPE. Nevertheless, the Agency agreed with the comments of the SERs and revised its initial position to allow employers to meet the accident-prevention and -protection requirements of an IHCS or CACS as an option to complying with the PRCS requirements of the proposed standard. OSHA believes this approach to classification of confined spaces will protect employees while allowing employers some flexibility in the methods they choose to manage confined-space hazards. This conclusion is particularly true given the information the Agency received during the SBREFA process when the SERs stated that contractors often prefer to classify all confined spaces as PRCSs so as to provide consistency in training and work practices. The Agency believes that in the construction industry, where there are constantly changing work environments, allowing such an approach may provide additional safety benefits to employees.

Paragraph (b). The two provisions of this proposed paragraph require the employer to define the planned conditions under which authorized entrants can work safely in a PRCS.

Paragraph (b)(1). Under this proposed paragraph, the employer would be required to use the determinations made

[3] "Safe level" is a defined term in proposed 1926.1203 (Definitions applicable to this subpart) of this proposed standard.

under paragraph (a)(2) of this proposed section to define the planned conditions under which the employees can safely work in the PRCS.

Accordingly, the required information would include the hazard levels at which employees can safely work and the procedures and equipment used to protect the employees. For example, when an employer decides to use PPE to protect employees from an atmospheric hazard, the planned conditions would typically include the type of PPE to be used (such as type of respirator) and the levels at which the PPE would protect the employees from the atmospheric hazard.

Paragraph (b)(2). Employers would be required to determine that, in the event the ventilation system stops working, the monitoring procedures will detect an increase in atmospheric hazard levels in sufficient time for the entrants to safely exit the PRCS. As explained for a similar provision in the general industry standard (see 29 CFR 1910.146(c)(5)(i)(B)), for the PRCS to be considered safe, the mechanical ventilation must control the atmospheric hazards at levels that are below the levels at which they are harmful to entrants (that is, at a sufficiently low level that entrants will have time to exit the PRCS safely). In addition, should the forced-air ventilation system cease to function during entry (such as from a power loss), the atmosphere must remain at safe levels until monitoring procedures detect rising atmospheric hazard levels and entrants can safely exit the space or ventilation is restored. The Agency believes that monitoring is the primary method for detecting an increase in atmospheric hazard levels and, therefore, this proposed standard generally requires the use of monitoring to detect ventilation system failure. However, other indicators may be useful in detecting such failures, including changes in noise levels, air flow, and/or pressure; and signs, symptoms, and characteristic effects of exposure to the atmospheric hazard.

In the event the control methods fail, meeting the requirements of this proposed paragraph would provide employees with a safe atmosphere within the PRCS until they evacuate from the confined space, thereby reducing the risk of serious injury and death. Nevertheless, OSHA believes that if the atmospheric hazards would rapidly rise to unsafe levels in the event of a failure in the mechanical-ventilation system, and employees could not exit safely from the PRCS under these conditions, then mechanical ventilation may be an inappropriate method for controlling atmospheric hazards in the PRCS.

Section 1926.1209—PRCS—Initial Tasks

Paragraph (a). One of the keys to protecting employees from PRCS hazards is for both employers and employees to know the location of the PRCSs at the job site, the characteristics of the hazards, and their associated dangers. The provisions in this proposed paragraph are designed to achieve this goal.

Paragraph (a)(1). The contractor would be required to notify its employees that it anticipates will be in or near the PRCS and their authorized representatives, and the controlling contractor, about the location of, and the hazards/dangers posed by the PRCSs located at the job site. The Agency believes that it is important for the contractor to provide the controlling contractor with this information because the controlling contractor is in the best position to convey the contractor's information to other employers at the site. This proposed provision will help facilitate the effective sharing of this important information among other contractors at the site, as well as the employees of these contractors that they anticipate will be in or near the PRCS. It also ensures that the contractor's own employees who will be in or near the PRCSs have this information.

Paragraph (a)(2). The employer would be required to post a danger sign at or near the PRCS entrances, which the Agency believes is necessary to ensure that employees are warned of the presence and danger of a PRCS. If the employer can demonstrate that a sign is infeasible, it would have to use an equally effective means of alerting employees. The Agency believes that employees need this information to understand the seriousness of potential hazards in the PRCS. Compliance with this proposed requirement would ensure that employees who are not involved in PRCS operations would be sufficiently informed so that they would not attempt to enter the spaces. However, OSHA notes that only employees who work in PRCSs would need to know more details about the potential hazards. Therefore, this proposed provision would not require employers to list specific PRCS hazards on each sign. The Agency believes that, when properly warned, employees who are not authorized to enter the space would avoid entering the PRCS, thereby preventing harm that could result from the PRCS hazards.

The sign must convey that entering the space is dangerous and that entry without authorization is prohibited. Language such as ''Danger—Permit-Required Confined Space—Authorized Employees Only'' and ''Danger—Do Not Enter Without a Permit'' would convey this information. Similar language that prevents unauthorized entry also would meet the requirements of the proposed rule.

OSHA considered allowing the use of a posted copy of the entry permit to meet the sign requirement. However, the Agency rejected this idea because the entry permit is not designed to serve as a warning sign. Unlike a sign that reads ''Danger—Permit Required Confined Space—Authorized Employees Only'' or ''Danger—Do Not Enter Without a Permit,'' or similar language, the design and content of an entry permit is unlikely to clearly express to employees (especially those not authorized to enter the PRCS) that entering the space could be dangerous.

When the employer demonstrates that posting a sign at every possible entrance to a PRCS is infeasible, it instead would be permitted to use an equally effective means to warn employees of the presence and danger of the PRCS. Such means must go beyond just generic training in this standard, for example, since generic training would not identify the location of permit spaces at a specific worksite. Therefore, an equally effective means would identify the PRCS locations so that employees at the job site who may work near the PRCSs would be aware of these locations and would understand the importance of not entering them.

Paragraph (b). The employer would be required to decide if any employees would be authorized to enter the PRCS. If no employees will be authorized to enter, entry must be prevented by implementing the three measures specified below in paragraphs (b)(1) through (b)(3) of this proposed section. The Agency believes that these measures would effectively prevent unauthorized entry into PRCSs and so protect employees from encountering PRCS hazards.

Paragraph (b)(1). The employer would be required to use barriers to permanently close the PRCS to prevent access to the PRCS. The use of barriers helps ensure that the PRCS remains inaccessible to employees. A barrier is a physical obstruction that blocks access to the PRCS; for example, a plywood sheet could be installed to cover the entrance, or 2x4s installed in such a manner that some or all of the barrier would have to be removed to easily enter the space.

Paragraph (b)(2). Under this proposed provision the employer would be

required to post danger signs in accordance with paragraph (a)(2) of proposed § 1926.1209. The Agency believes that it is necessary to use such signs in conjunction with the barrier because, without such signs, an employee may not understand that the purpose of the barrier is to keep all employees out of the PRCS. Such signs are particularly important at construction sites, where construction employees are accustomed to removing material to gain access to an area.

Paragraph (b)(3). Employers would be required to inform their employees and the controlling contractor of the location of the closed PRCS and the measures used to prevent entry into the space. The purpose of this proposed paragraph is to ensure that all employees, including employees who are not authorized to enter a PRCS, are informed directly of the locations of the closed PRCSs and the dangers they pose. As a result, employees, including those employees who have no experience working near or within a PRCS, would recognize, and avoid entering, a PRCS.

Paragraph (c). Under this proposed paragraph, if the employer decides that one or more employees will be authorized to enter the PRCS, it would be required to implement specific measures to limit entry into the PRCS to only those employees authorized to enter. Compared to the general industry standard, the provisions in this proposed paragraph provide more specific information to employers about how to limit PRCS access to authorized entrants at construction worksites.

Paragraph (c)(1)(i). OSHA believes that to effectively limit entry into a PRCS, it is necessary to make it physically difficult for non-authorized employees to enter the space since employees may not take note of other types of warnings (such as signs) before entering the space. Therefore, under this proposed provision, employers would be required to use either barriers or high-visibility physical restrictions, such as warning lines with flags, installed across the entrances to the PRCS. High-visibility physical restrictions such as warning lines with flags would be allowed as an option in this proposed provision since these restrictions allow authorized employees to enter the space. Unlike the barriers described above in paragraph (b)(1) of this proposed section, which must prevent any employee from entering the PRCS, the purpose of the barriers required by this paragraph is to warn non-authorized employees not to enter the space while allowing entry into the PRCS by authorized entrants.

This proposed provision serves a different purpose than the barrier required below in paragraph (c) of proposed § 1926.1210. As discussed below, the barrier in paragraph (c) of proposed § 1926.1210 would be designed to protect authorized entrants from external hazards presented by pedestrians and vehicles. In contrast, the barrier or high-visibility physical restriction in this proposed provision is designed to prevent non-authorized entrants from entering the PRCS, while allowing authorized entrants ready access to the PRCS.

Paragraph (c)(1)(ii). Employers would be required to post signs that comply with paragraph (a)(2) of this proposed section at or near the entrances to the PRCS. The sign required by this proposed paragraph would warn employees that it is dangerous to enter the PRCS. The sign would work in conjunction with the physical restrictions specified in paragraph (c)(1)(i) of this proposed section to communicate the presence of hazards within the PRCS.

Paragraph (c)(1)(iii). The employer would have to inform its non-authorized employees and the controlling contractor of the location of, and hazards in, the PRCS and the measures used to prevent unauthorized entry. As with the requirements in paragraphs (a)(1) and (b)(3) of this proposed section, OSHA believes that it is important for the employer to communicate the location and hazards of the PRCS to its non-authorized employees. In addition, the controlling contractor is typically in the best position to disseminate the information about the PRCS to the other affected employers. OSHA believes that inadvertent entry into the PRCS by non-authorized employees is less likely to occur where this information is disseminated.

Paragraph (c)(2). The employer would be required to allow only employees who are ''authorized entrants'' as defined above under proposed § 1926.1203 (Definitions applicable to this subpart) to enter the PRCS. Paragraph (g) of proposed § 1926.1210 would require the employer to designate which employees are authorized entrants and to ensure that these individuals are identified on the current entry permit in accordance with paragraph (a)(2)(ii) of proposed § 1926.1214. Only these individuals may enter the PRCS. The Agency believes that this proposed requirement will help maintain safe PRCS operations, which to a significant extent depend on the entrants knowing about the hazards and proper PRCS procedures. Non-authorized entrants would not typically be trained regarding the hazards and safety procedures required by the applicable sections of this proposed standard. Consequently, their presence could compromise not only their own safety and health, but also the safety and health of other employees in the PRCS.

Paragraph (d). This proposed paragraph establishes an employer's duties to train employees the employer anticipates will be in or near the PRCS.

Paragraph (d)(1). The employer would have to ensure that employees who will be in or near a PRCS acquire the knowledge and skills necessary for the safe performance of their duties as specified by the applicable sections of this proposed standard. The proposed provision specifically identifies ''employees who will be in or near a PRCS'' as entry supervisors, attendants, authorized entrants, and rescue-service employees. The training must also result in the employees understanding the hazards in the PRCS that they will be working in or near, and the methods used to isolate, control, or protect them from these hazards. For example, if an authorized entrant enters the space to isolate an identified hazard or to set up ventilation to control an atmospheric hazard, the employer would be required to ensure that the employee is trained not only in accordance with the PRCS entry requirements, but also to perform the tasks necessary to isolate and control the specific hazards in accordance with other appropriate OSHA requirements applicable to construction. All employees who enter the space thereafter must also be trained to understand how the hazards within the space, if any, have been isolated or controlled. OSHA believes that the training employees receive under this provision will enable them to associate the signs, symptoms and characteristic effects (discussed elsewhere in this preamble) to failure of methods to control or isolate the hazards. Therefore, this training will enable employees to safely perform their requisite duties while working in or near the PRCS, and to respond appropriately if the hazard-protection methods fail.

Paragraph (d)(2). Multiple fatalities could occur when one employee discovers that another employee has been incapacitated inside a confined space and goes into the space to rescue the victim, only to become incapacitated as well. OSHA believes one of the ways the proposed standard would prevent this type of tragic sequence is by having separate requirements for those employees who are specifically authorized to enter the PRCS for rescue and those employees who are not.

Under this proposed paragraph, the employer would be required to train employees the employer anticipates will be in or near the PRCS, and who are not authorized to perform entry rescues, about the dangers of trying to perform a rescue. This training is especially important for authorized entrants, attendants, and supervisors since they are most likely the first to become aware that an employee in the PRCS is incapacitated.

Paragraph (d)(3). This proposed paragraph specifies when the employees, notably entry supervisors, attendants, authorized entrants, and rescue-service employees, would have to be trained under the requirements of paragraphs (d)(1) and (d)(2) of this proposed section. The provisions of this proposed paragraph are designed to ensure that the training would be provided before the employees encounter a PRCS hazard, thereby ensuring that they can respond promptly and appropriately to hazards, and that they are aware of the dangers of attempting entry rescues.

Paragraph (d)(3)(i). The employer would have to ensure that specified employees (that is, entry supervisors, attendants, authorized entrants, and rescue-service employees) receive the training required above in paragraphs (d)(1) and (d)(2) of this proposed section prior to the beginning of PRCS entry operations (that is, when an authorized entrant enters the PRCS). This proposed requirement ensures that employees receive adequate training regarding PRCS hazards before authorized entrants are exposed to these hazards.

Paragraph (d)(3)(ii). Under this proposed provision, if employees receive a change in assigned tasks and these changes affect the planned conditions for the PRCS, then the employer must train these employees before they enter the PRCS on the newly assigned tasks, including how to maintain the conditions of the PRCS classification when performing the tasks. For example, an employee's assignment changes so that he/she must maintain the proper functioning of ventilation equipment in the PRCS or perform atmospheric monitoring; before reentering the space, the employee must be trained to perform such tasks and to understand their significance to safe PRCS entry operations. This additional training only applies when employees have not received previous training on these newly assigned tasks. This proposed provision would ensure that employees have the knowledge and skills necessary to perform their newly assigned tasks safely within a PRCS, thereby preventing errors that could result in substantial harm to themselves and/or other employees.

Paragraph (d)(3)(iii). The employer would be required to ensure that authorized entrants exit the PRCS when a new hazard is introduced or occurs in the PRCS for which the authorized entrants have not previously received training. The employer then would have to ensure that all untrained employees the employer anticipates will be in or near the space to complete training that provides the necessary skills and knowledge regarding the new hazard before the space is reentered.

An example would be authorized entrants working in a PRCS who, in the course of their work, discover a previously unknown gas line; none of the authorized entrants has been trained on the hazards associated with working in a PRCS that has a gas line. This proposed provision would require that the employees exit the PRCS (not just the area near the gas line) until they receive the required training.

Paragraph (d)(4). The employer would have to ensure that employees that the employer anticipates will be in or near the PRCS can demonstrate proficiency in the duties required by this proposed standard, including any new or revised PRCS procedures. This proposed provision would ensure that employees would not enter a PRCS without being able to apply the knowledge and procedures addressed in their training. In other words, the employer must determine that, for each employee, the training has been effective—that it has resulted in the employee understanding the information sufficiently so that he/she can apply it and be proficient in the required duties.

Paragraph (d)(5). The employer would be required to maintain training records for each employee. The training records would have to meet several requirements specified by this proposed paragraph. As explained in the following paragraph, the Agency believes that maintaining such records is necessary to ensure that employees that need to be trained in PRCS hazards have received the appropriate training.

Paragraphs (d)(5)(i) and (d)(5)(ii). The training records would have to show that the employee accomplished the training requirements specified in paragraphs (d)(1) through (d)(4) of this proposed section when required. This documentation can take any form that reasonably demonstrates the employee's completion of the training. Examples include attachment of test scores, a photocopied card certifying completion of a class, or any other reasonable means. The records would also have to contain the employee's name, names of the trainers, and dates of the training. These records may be stored electronically.

OSHA recognizes that the turnover rate for employees on construction sites is higher than in many other industries, and that employees are also likely to work at several different worksites based on the type of work that needs to be performed. For example, an employer could designate an employee to be an authorized entrant in several different confined spaces at the same worksite, which may require the employee to perform different assigned tasks under various planned conditions. In this situation, OSHA believes that this documentation is necessary to keep track of whether the employee has been effectively trained to perform the various tasks under the planned conditions. Compliance with this provision would provide employers with an administrative tool that they can use to confirm which employees will be able to perform the duties required by this proposed standard. By providing an easily accessible reference for determining employee training status, this provision would ensure a safer workplace within the PRCS.

Paragraph (d)(6). The provisions of this proposed paragraph would require that an employer ensure that employees be retrained when specified circumstances occur.

Paragraph (d)(6)(i). Retraining would be required when the employer has reason to believe that the employee has deviated from the PRCS entry procedures in proposed §§ 1926.1209 through 1926.1214. By retraining employees who deviate from entry procedures, the employer can better ensure the safety of all employees in a PRCS. OSHA believes that even one employee can adversely affect the safety of others in a confined space if he/she deviates from correct entry procedures.

Paragraph (d)(6)(ii). Retraining would also be required when the employer finds indications that the employee does not have adequate knowledge and skills regarding PRCS entry procedures. OSHA believes that employees in a PRCS with inadequate knowledge or skills regarding these procedures could endanger their lives and also the lives of other employees in the space.

Paragraph (e). Before any employees enter a PRCS, the employer would be required to complete arrangements for the rescue of these employees in accordance with proposed § 1926.1213 (PRCS—rescue criteria). The Agency believes that this proposed provision is necessary to ensure that rescue and emergency services will actually be readily available if they are needed.

Note that, in paragraph (e)(2)(iv) of proposed § 1926.1210, the entry supervisor is specifically required to verify that this arrangement has been made before authorizing a PRCS entry.

Paragraph (f). The employer would have to develop procedures for safely terminating entry operations under both planned and emergency conditions. For example, if ventilation equipment is being used to help control an atmospheric hazard, safe termination procedures under planned conditions or emergency conditions would include sequencing shut-down operations so that the ventilation was not turned off until the end of the termination process (that is, after employees exit the PRCS).

Section 1926.1210—PRCS—Preparing for Entry

Once the initial tasks under proposed § 1926.1209 (PRCS—initial tasks) have been completed, the employer would then have to meet several requirements under this proposed section before allowing an employee to enter a PRCS.

Paragraph (a). Before any authorized entrant enters a PRCS, the employer would be required to prepare an entry permit that meets the requirements of proposed § 1926.1214 (PRCS—entry permits), and then post this entry permit where the authorized entrants enter the PRCS. OSHA believes that making the permit available to all authorized entrants is necessary because they need to know, and be able to refer back to, the information that is in the permit to work safely in the PRCS.

Paragraph (b). This proposed paragraph would require, prior to removing an entrance cover, that employers eliminate any condition that makes it unsafe to remove the entrance cover. For example, conditions such as heat and pressure within the PRCS may pose a danger to employees removing an entrance cover. In such cases, the cover may be blown off in the process of its removal, or superheated steam may suddenly escape and burn the employee. Another example would be where a sealed cover is removed and toxic gases are released.

To protect employees from these hazards inside the PRCS, the employer would be required to make a hazard assessment before any cover is removed. Removal of the cover to the PRCS would not be permitted until the employer identifies any hazardous conditions related to the cover's removal and then eliminates those hazards.

Paragraph (c). The purpose of this proposed paragraph is to protect employees in and around the PRCS from being struck by individuals or objects outside the PRCS that may fall into the space, or that could injure the employees when they are near the PRCS. When necessary to achieve this purpose, this proposed provision requires employers to promptly: use guardrails or covers as specified in 29 CFR 1926.502 (Fall protection systems criteria and practices) of subpart M (Fall Protection) to guard holes and openings into the space from falling individuals and objects, and institute measures to control pedestrian and vehicle traffic in accordance with the requirements in 29 CFR Part 1926 subpart G (Signs, Signals, and Barricades).

Paragraph (d). Employers would be required to ensure that a safe method of entering and exiting a PRCS (such as stairways or ladders) is provided and used, and that it meets applicable OSHA requirements (such as 29 CFR Part 1926 subpart X (Stairways and Ladders)). For example, where the employees are working in an underground vault, the employer would be required to provide and ensure the use of a safe means of entry into and exit from an underground vault, and, if applicable, ensure that the method complies with OSHA standards.

This proposed paragraph also would require that if a hoisting system is used, it must be designed and manufactured for personnel hoisting. This proposed provision also allows for the use of job-made hoisting systems if these systems are approved for personnel hoisting by a registered professional engineer prior to use in PRCS entry operations.

However, commercial hoisting systems not designed and manufactured specifically for personnel hoisting would not be permissible under this proposed provision because OSHA believes they cannot be used safely for this purpose. This proposed requirement would eliminate further injuries and deaths of employees that could occur from the use of a hoisting system that was not designed specifically for personnel hoisting. The provision would give the employer flexibility in its choice of personnel hoisting systems by allowing a registered professional engineer to approve a job-made system. OSHA believes that either option would ensure that the personnel hoisting system will meet the design specifications needed for employees to safely access the PRCS.

This proposed provision would ensure that authorized entrants always have a safe and effective means of entering and exiting the space, including escaping from it in an emergency. These means include systems that are designed and manufactured for personnel hoisting and job-made hoisting systems approved by a registered professional engineer, even when these systems are not covered by an OSHA standard.

Paragraph (e). The provisions under this proposed paragraph delineate the requirements for an entry supervisor. These proposed requirements focus overall coordination of PRCS entry operations on the entry supervisor, and provide that person with authority to terminate PRCS entry operations and to cancel the entry permit. By centralizing these duties in a single individual who is highly knowledgeable regarding PRCS entry operations, these proposed requirements would substantially enhance the safety of affected employees, especially authorized entrants.

Paragraph (e)(1). The employer would be required to assign at least one entry supervisor for each worksite where there is a PRCS. OSHA believes that many of the accidents that occur in confined spaces are the result of an employer's failure to implement confined-space entry procedures. To help prevent such accidents, the Agency believes that it is necessary for the employer to not only establish safe procedures for PRCS entry, but to also ensure that these protective procedures are implemented. Therefore, to ensure that the protective entry procedures are implemented, this proposed paragraph requires the employer to assign an entry supervisor for the PRCS who would coordinate procedures for entering the PRCS. Accordingly, the entry supervisor has specific duties that must be fulfilled to ensure a safe workplace for those employees the employer anticipates will be in or near the PRCS. The employer would be required to ensure that the assigned individual meets the qualifications and performs the duties specified in paragraph (e)(2) of this proposed section.

Paragraph (e)(2)(i). The employer would be required to ensure that the entry supervisor knows the physical and atmospheric hazards in the PRCS. It is essential for the entry supervisor to know this information since it forms the basis for the PRCS procedures that would be used to protect the affected employees.

Paragraph (e)(2)(ii). The employer would be required to ensure that the entry supervisor knows how the hazards enter the body (for example, by skin contact or inhalation), as well as the signs, symptoms, and characteristic effects (including behavioral effects) of exposure to these hazards. As an individual with the authority to order the evacuation of the PRCS and cancel the entry permit, it is essential that the entry supervisor recognize hazardous conditions and telltale indications

(signs, symptoms, and characteristic effects) that a hazard is affecting employees in or near the PRCS operations. By meeting the knowledge requirements of this proposed paragraph, the entry supervisor would be better prepared to identify emergency situations by observing employees involved in entry operations.

Paragraph (e)(2)(iii). The employer would have to ensure that the entry supervisor verifies (by checking appropriate entries in the permit) the completion of atmospheric testing specified in the entry permit, that the conditions in the PRCS are within the planned conditions as defined in accordance with paragraph (b) of proposed 1926.1208 and as listed in the entry permit, and that any other procedures and equipment specified in the entry permit are in place. These preliminary checks are necessary to ensure that the conditions in the space are within the planned conditions—hazard levels are as planned, and protective measures are already in place, working properly, and are effective—before entry operations commence.

Paragraph (e)(2)(iv). The employer would be required to ensure that the entry supervisor verifies that the entry rescue service (selected in accordance with paragraph (e) of proposed §§ 1926.1209 and proposed 1926.1213) is available to perform their rescue duties and that the means for timely summoning the entry rescue service is operating properly. Since the employer would be required to assign authority for safe permit entry operations to the entry supervisor, it is reasonable and consistent with the rescue provisions to specify that the entry supervisor verify that the entry rescue service is available and the means of summoning it in a timely manner is functioning properly.

Paragraph (e)(2)(v). After the entry supervisor makes the verifications required by paragraphs (e)(2)(iii) and (e)(2)(iv) of this proposed section, the employer would be required to ensure that the entry supervisor signs the entry permit to authorize employees to enter the PRCS. OSHA believes that it is important for all employees the employer anticipates will be in or near the PRCS to be able to know who the persons are who have authority and responsibility with respect to maintaining safe conditions during entry operations. If an employee discovers an unsafe condition or symptoms caused by an unsafe condition, it is important for the employee to be able to notify a person (such as the entry supervisor) with the authority and responsibility for correcting the hazard and for evacuating the PRCS. In addition, the signature requirement underscores to the employer and the entry supervisor the importance of their determination that the prerequisites for safe entry listed in the permit have been met.

Paragraph (e)(2)(vi). The employer would be required to ensure that the entry supervisor terminates PRCS entry operations in accordance with paragraph (b) of proposed § 1926.1212 (Supervisor requirements) of this proposed standard. For an explanation of this proposed requirement, see the discussion under paragraph (b) of proposed § 1926.1212 of this preamble.

Paragraph (f). The provisions of this proposed paragraph specify the requirements for attendants. These proposed requirements would help to ensure the safety of employees in or near the PRCS.

Paragraph (f)(1). The employer would be required to station an attendant outside the PRCS for the duration of the entry operation. The rationale for assigning attendants to a PRCS is similar to the rationale for assigning entry supervisors to these confined spaces (see paragraph (e)(1) of this proposed section). Although an attendant does not have the overall responsibility for employee safety and health assigned to the entry supervisor, the attendant is a crucial link in the communication chain between the entry supervisor, rescue operations, and the authorized entrants.

It is extremely important that the attendants understand their duties, stay in contact with the entrants, and remain alert to conditions inside and outside the PRCS. The attendant may be in the best position to warn the entrants of hazardous conditions developing outside the space and impending danger within the space, and to recognize physical and behavioral changes in the entrants that would indicate that conditions within the space may be deteriorating. In cases where the entrant becomes incapacitated, the attendant often is an entrant's only contact with individuals outside the confined space. Without the attendant, many emergencies in the space would not be detected and help would not be summoned until it is too late.

One of the main duties of the attendant is to recognize hazardous conditions that are occurring inside the PRCS and to communicate this information to rescue personnel in emergency situations. If the attendant was inside the space, the attendant could become incapacitated if an emergency occurred and rendered unable to perform the very duties that are necessary to protect the other employees. The attendant would often be the first (and sometimes only) person to recognize unacceptable conditions or signs of hazardous conditions within the space. Therefore, it is imperative that the attendant remain outside of the PRCS to monitor the space and to contact and help coordinate rescue personnel during times of emergency.

Paragraph (f)(2). The employer would be required to ensure that the attendant knows the hazards associated with the PRCS, how these hazards enter the body, and the signs, symptoms, and characteristic effects that can result from those hazards. Knowing this information is crucial for the attendants to perform their duties because they must be able to recognize when there are indications that the planned conditions in the PRCS are not being met—that something is wrong with the system of employee protection. Because attendants would be able to easily communicate with entrants and entry supervisors, their recognition of deviations from the planned conditions and of the signs, symptoms and characteristic effects that might indicate exposure to a hazard will help enable a timely evacuation of the PRCS.

Paragraph (f)(2)(i). The employer would be required to ensure that attendants know the physical and atmospheric hazards in the PRCS. OSHA believes that knowing the hazards within the space includes being able to both recognize and understand them.

Paragraph (f)(2)(ii). The employer would be required to ensure that attendants know how the hazards may potentially enter the body (for example, skin contact and inhalation), the signs and symptoms of coming into contact with a hazard, and characteristic effects (including behavioral effects) of the hazards. OSHA believes this proposed requirement is necessary because the attendant is likely to be in a position to quickly recognize deteriorating conditions within the space and communicate the need for an immediate evacuation. For instance, subtle behavioral changes/effects detected in an entrant's speech or deviations in established communication procedures could alert the attendant that it is necessary for the entrant to evacuate the space or to be rescued.

Paragraph (f)(3). Under this proposed provision, the employer would be permitted to assign a single attendant to monitor more than one PRCS only when the requirements in this proposed paragraph are met. OSHA acknowledges that, although it is best to have one attendant outside each PRCS, there may be situations when one attendant can

effectively monitor multiple PRCSs. The ability to monitor multiple PRCS sites allows employers maximum flexibility in providing for the safety of employees where site-specific factors permit the attendant to do so. For instance, in some circumstances a single attendant equipped with modern technologies such as automated monitor/alarm systems and audio-video equipment may be able to monitor multiple sites and react to emergency conditions as effectively as a single attendant at each space.

Paragraph (f)(3)(i). The employer would be required to ensure that attendants are able to completely and accurately perform all duties assigned to them under paragraph (f) of proposed § 1926.1211 (Attendant duties). The attendants must be able to perform these duties at each individual PRCS without compromising the performance of their duties at any other PRCS site they are responsible for monitoring. Therefore, OSHA believes that to effectively monitor multiple PRCSs without compromising the safety of the entrants in any one of the PRCSs, employers must meet the requirements of paragraph (f) of proposed § 1926.1211 for each PRCS.

Paragraph (f)(3)(ii). The employer would be required to provide the equipment and procedures needed by an attendant to respond to an emergency affecting any of the PRCSs he/she is assigned to monitor. Examples of such equipment include electronic equipment (for example, electronic audio and video tools) that enables the attendant to detect what is occurring inside the multiple PRCSs without the attendant having to simultaneously be physically present at each PRCS entrance. If an employer chooses to require an attendant to monitor multiple PRCSs, the employer would have to provide all of the equipment necessary for the attendant to fulfill the required duties. OSHA believes that it is unrealistic to expect an attendant to be able to adequately perform those duties without the equipment necessary to accomplish the tasks assigned in paragraph (f) of proposed § 1926.1211.

Paragraph (g). The provisions of this proposed paragraph address requirements regarding authorized entrants. OSHA believes that these employees face the greatest danger from the PRCS because they will be working in or near the hazards that pose serious safety and/or health risks. To ensure safe PRCS entry operations it is necessary for employers to limit PRCS entry to those employees who have the requisite knowledge about the hazards.

Paragraph (g)(1). The employer would be required to designate which employees are authorized to enter a specific PRCS. For example, when there is a worksite with five separate PRCSs where employees will be performing construction activities, the employer would be required to designate the specific employees who are authorized to enter specific PRCSs. Only those employees whom the employer designates as authorized (and are documented in the entry permit) are allowed to enter the designated PRCS.

Paragraph (g)(2). This proposed paragraph would require the employer to ensure that the authorized entrants know about the hazards associated with the PRCS they will be entering, and the characteristics associated with each particular hazard. This knowledge would afford authorized entrants with the information they need to protect themselves from these hazards.

Paragraph (g)(2)(i). The employer would be required to ensure that the authorized entrants know the physical and atmospheric hazards in PRCSs they are authorized to enter. This proposed requirement is similar to requirements described above for entry supervisors and attendants in §§ 1926.1210(e) (Entry supervisor) and (f) (Attendant) of this proposed section.

Paragraph (g)(2)(ii). The employer would be required to ensure that authorized entrants know how the hazards may enter the body (skin contact, inhalation), as well as signs and symptoms, and characteristic effects (including behavioral effects) that the hazards may cause. This proposed provision is similar to paragraphs (e)(2)(ii) and (f)(2)(ii) of this proposed section, which specify knowledge requirements for entry supervisors and attendants. It is particularly important for the authorized entrants to have this knowledge, since it may help them avoid PRCS hazards. For example, if an accident occurs in which an employee's protective equipment is cut, a hazardous chemical gets on his/her skin, and the employee knows that the chemical can enter the body through skin contact, the likelihood that the employee will immediately seek help is enhanced. Another example is if an authorized entrant sees unusual behavior in another authorized entrant and knows that the behavior is a symptom of exposure to a hazard, the authorized entrant will more likely recognize that an emergency is occurring and take appropriate action.

Paragraph (h). This proposed paragraph sets forth the criteria for assigning simultaneous roles to authorized entrants, attendants, and entry supervisors.

Paragraph (h)(1). The employer would be required to ensure that employees do not serve as authorized entrants and attendants simultaneously. OSHA believes that the roles of authorized entrant and attendant are fundamentally incompatible since, under paragraph (f)(1) of proposed § 1926.1210, the attendant must be stationed outside the space for the duration of the entry operation (as explained in the discussion of paragraph (f)(1) of proposed § 1926.1210). In addition, the Agency believes that trying to perform both roles simultaneously would be too distracting to perform either position effectively.

Paragraph (h)(2) and (h)(3). An employer would be permitted to have an attendant or authorized entrant serve simultaneously as an entry supervisor only if the employer ensures that the person meets all the requirements under this proposed standard applicable to that person's assigned roles. These provisions would, in effect, require employers to first assess the type and extent of the assigned tasks associated with each role and determine that the roles do not interfere with each other.

Paragraph (i). OSHA is reserving this paragraph because it is difficult for readers to have to distinguish if the letter (i) is being used as a letter or as a roman numeral.

Paragraph (j). The employer would be required to provide, and ensure the use of, equipment necessary to maintain safe conditions in a PRCS. OSHA believes that providing such equipment, and using it correctly, would prevent injuries and fatalities in PRCSs. Accordingly, the purpose of this proposed paragraph is to ensure the availability and proper use of whatever equipment is necessary to reduce the dangers posed by PRCSs.

Paragraph (j)(1). The employer would be required to provide communication equipment necessary for compliance with paragraphs (f)(5), (g)(2), and (h)(2) of proposed § 1926.1211 (requirements for entrant-to-attendant communication and rescue-service summoning requirements, respectively). Such equipment may be of a variety of types (for example, cell phones, two-way hand-held radios), so long as it is effective. If there is weak or unpredictable signal strength where the device is used, the device would not meet the requirements of the proposed standard. Properly operating communication equipment is essential in relaying information to persons of authority regarding potentially dangerous changes in the PRCS

conditions. Such information is necessary to monitor the hazards within the space and to provide guidance on methods appropriate for protecting or removing employees from those hazards.

Paragraph (j)(2). The employer would be required to provide lighting equipment to illuminate PRCSs that provides the illumination levels specified by 29 CFR 1926.56 (Illumination). OSHA believes that this proposed requirement would assist employees in conducting safe PRCS operations, including safe escape from a PRCS if necessary.

Paragraph (j)(3). The employer would be required to provide railings, covers, or barriers as required in paragraphs (b) and (c) of proposed § 1926.1209 and paragraph (c) of proposed § 1926.1210. OSHA believes that this proposed requirement is necessary to keep unauthorized employees from entering the PRCS and to help protect employees inside the PRCS from being struck by objects and individuals falling into the PRCSs. When providing this equipment, employers must ensure that it complies with the requirements of other applicable OSHA standards (for example, guardrails must meet the requirements of 29 CFR 1926.502(b) (Guardrail systems), covers must conform to 29 CFR 1926.502(i) (Covers)).

Paragraph (j)(4). The employer would be required to provide and ensure the use of equipment, such as ladders, needed for safe entry into and exit from the PRCS. In doing so, employers must ensure that this equipment, including its use by employees, complies with the requirements of the applicable OSHA standards (for example, 29 CFR Part 1926 subpart X for ladders and stairways, 29 CFR Part 1926 subpart L for scaffolds). This equipment is critical under emergency-egress conditions to ensure that employees exit a PRCS in a timely and safe manner.

Paragraph (j)(5). The employer would be required to provide rescue and emergency equipment that complies with proposed § 1926.1213 (PRCS—rescue criteria), unless an entry rescue service provides its own rescue and emergency equipment. This proposed paragraph would ensure that the proper equipment is provided for rescuing authorized entrants in the event of an emergency in a PRCS.

Paragraph (j)(6). The employer would be required to provide any other equipment necessary for the safe rescue of employees working in or near a PRCS. OSHA believes this proposed requirement would address hazards that are unique to a PRCS rescue, thereby ensuring that employees receive adequate protection from these hazards under emergency conditions. Accordingly, the employer would have to identify this additional equipment, if any, after conducting an assessment of the PRCS as required by the applicable sections of this proposed standard.

Paragraph (k). The employer would be required to document in the entry permit determinations made and actions taken pursuant to the paragraphs (b) through (j) of this proposed section. OSHA believes that proper implementation of these complex and critical safe-entry procedures depends on adequate documentation. Therefore, this proposed provision requires employers to document relevant information about the PRCS in the permit that it obtains while preparing for entry operations; this information pertains to the isolation of hazards, planned conditions, and other information required for safe PRCS entry. For example, the actions an employer takes to remove a pressurized or extremely heavy manhole cover (a physical hazard) as required by paragraph (b) of this proposed section is the type of information that employers would have to include in the entry permit. In contrast, this provision would not require employers to document all the information specified in paragraphs (b) through (j) of this proposed section, ''only determinations made'' and ''actions taken''; for example, employers would not have to document on the entry permit whether an entry supervisor meets the requirements specified in paragraph (e)(2) of this proposed section (Entry supervisor requirements) before assigning the applicable duties, nor would they have to document information already required under paragraph (a) of proposed § 1926.1214. (See the sample entry permit in Appendix B of this proposed standard for an example of the type of information that may be required under this proposed provision.)

The information provided in the entry permit under this proposed paragraph would help the entry supervisor ensure that all required safety steps are complete before authorizing entry into the PRCS. Furthermore, including this information in the entry permit provides a ready reference for questions that may arise from authorized entrants and their authorized representative about whether conditions in or around the PRCS deviate from planned conditions and, if so, for the entrants to initiate an evacuation of the PRCS.

Section 1926.1211—PRCS—During Entry

This proposed section details the requirements that would apply while any employee is in a PRCS. The proposed requirements address the duties of entry supervisors, attendants, and authorized entrants, as well as hazard monitoring and rescue.

Paragraph (a). The employer would be required to ensure that physical and atmospheric hazards in the PRCS remain isolated or controlled, or that the employees remain protected from them, in accordance with the determinations made under proposed § 1926.1208 (Permit-required confined spaces), while any employee is in the PRCS. If the employer cannot maintain isolation or control of the physical and atmospheric hazards, or protect employees from these hazards, within the parameters established under proposed § 1926.1208, then the employer would be required to terminate the entry.

Paragraph (b). The employer would be required to monitor atmospheric hazards in accordance with the requirements specified in proposed § 1926.1205 (Atmospheric testing and monitoring) while employees are in the PRCS. Monitoring must be continuous unless the employer can demonstrate that the equipment is not commercially available or periodic monitoring is sufficient. In contrast to many general industry PRCSs, in the typical PRCS construction setting, it is often difficult for the employer to predict with reasonable certainty the levels of hazardous atmospheres. In many instances the employer will have little or no past experience with the particular PRCS, and will lack reliable historical data on hazard levels. Also, the PRCS may be altered as construction work progresses in ways that may cause unexpected increases in hazard levels. For example, changes to the wall of a PRCS may allow hazardous gasses to enter the space at higher levels than before the wall was altered.

In addition, construction equipment in the space may not operate as expected and may discharge hazardous gasses at a higher rate than anticipated. In short, construction work tends to follow a less predictable course than work covered by the general industry standard and, thus, requires atmospheric monitoring more frequently. Because of this high level of unpredictability, OSHA believes that continuous monitoring will normally be needed to ensure that affected employees, especially the entrants, are protected. This proposed provision

would enable deteriorating conditions to be recognized quickly and new atmospheric hazards identified in time to take the actions required to protect the employees.

The Agency recognizes, however, that in some PRCSs, especially when the same PRCS has been repeatedly entered and monitored and found to have a stable atmosphere (such as a remote location that is not proximate to potential sources of atmospheric hazards), the employer may be able to show that periodic monitoring will be sufficient to ensure that the conditions in the PRCS remain within planned conditions. However, when periodic monitoring is used, it must be of sufficient frequency to ensure that atmospheric hazards are being controlled as planned and that new hazards would be detected in time to protect the employees. In some cases, continuous monitoring may not be possible; for example, continuous monitoring typically is not available when the atmospheric hazard is a particulate. Therefore, when the employer can show that periodic monitoring is adequate, or demonstrate that the technology for continuous monitoring is not available, OSHA would permit the employer to use effective periodic monitoring instead of continuous monitoring.

Paragraph (c). This proposed paragraph specifies that the employer must document the procedures used, and the monitoring results obtained, under paragraphs (a) and (b) of this proposed section by entering this information in the entry permit in accordance with paragraph (a) of proposed § 1926.1214 (Contents). OSHA believes that it is important that the entry supervisor have before him/her readily available evidence that pre-entry conditions have been checked and the results of the tests noted. Additionally, the authorized entrants will be able to check the permit to confirm that testing has been done and that safe conditions exist. The entrants and attendants would have this information readily available to facilitate identifying when current conditions in or near the confined space begin to deviate from pre-entry conditions and take appropriate precautions.

Paragraph (d). This proposed paragraph specifies the duties of the entry supervisor that the employer would have to ensure are met while employees are in the PRCS.

Paragraph (d)(1). The entry supervisor would have the duty of ensuring that entry conditions are being properly monitored and that they remain consistent with the planned conditions specified in the entry permit. By requiring the employer to have an individual on site with this authority, the likelihood that the required monitoring and adherence to planned conditions will be met, which is critical to the successful implementation of safe PRCS procedures, would be enhanced.

Paragraph (d)(2). The employer would be required to ensure that the entry supervisor removes individuals who are not authorized entrants who enter or attempt to enter a PRCS. Unauthorized entrants lack the safety training necessary to work in the PRCS, and their presence was not planned for in developing the entry permit. Their presence not only poses a danger to themselves, but may also endanger the authorized entrants in the space.

Paragraph (d)(3). The provisions of this proposed paragraph identify the conditions under which employers are to ensure that an entry supervisor evacuates authorized entrants from a PRCS as quickly as possible. For example, the employer would be required to ensure that the entry supervisor orders authorized entrants to exit the PRCS when the entry supervisor detects (such as by seeing a reading on a gas monitor) or learns of (such as by hearing a warning from an employee) one of the conditions listed in paragraph (d)(3)(i) of this proposed section. OSHA believes that each of these conditions represents potential precursors to serious safety hazards that threaten the health and well being of employees working in and near the PRCS.

Paragraph (d)(3)(i)(A). The employer would be required to ensure that the entry supervisor orders authorized entrants to exit the PRCS when the entry supervisor detects or learns of an unplanned condition (for example, a new hazard or a hazard level that exceeds the planned level) in or near the PRCS. Employees need to be removed from the PRCS as quickly as possible in such cases because the safety procedures delineated in the permit are designed to work in the context of conditions in the space staying within the planned parameters.

Paragraph (d)(3)(i)(B). The employer would be required to ensure that the entry supervisor orders the PRCS evacuated if he/she detects or learns of a sign, symptom, unusual behavior, or other effect of a hazard in authorized entrants. OSHA believes that these effects may indicate that conditions within the PRCS are deviating from the conditions specified in the entry permit. Such indications may result from a new hazard, a hazard level that exceeds planned levels, or from personal protective equipment that is not working as planned. In such circumstances, removal from the space is necessary to protect the employees.

Paragraph (d)(3)(i)(C). The employer would be required to ensure that the entry supervisor orders authorized entrants to exit the PRCS when an evacuation alarm, if used, indicates an emergency. These alarms may be atmospheric or engulfment-hazard monitor alarms or alarms manually activated by an authorized entrant or other employee. This proposed provision would provide protection to entrants by removing them from a PRCS in the event of a warning of impending danger.

Paragraph (d)(3)(i)(D). The employer would be required to ensure that the entry supervisor orders the authorized entrants to exit the space when a situation outside the PRCS occurs that could endanger the entrants. OSHA recognizes that the work environment on construction sites often involves multiple tasks occurring simultaneously, often by different contractors. Sometimes conditions or activities outside the PRCS can pose a hazard for employees inside the PRCS. Some examples are equipment or materials blocking a PRCS entrance, dangerous approaching storms, and exhaust from vehicles or generators. Another example that would trigger this proposed requirement would be a spilling of a toxic chemical outside the PRCS where there is a possibility that the chemical or its gasses could migrate into the PRCS.

Paragraph (d)(3)(ii). The employer would be required to ensure that the entry supervisor orders the authorized entrants to exit the space if the entry supervisor can no longer perform effectively and safely all of the duties specified by paragraph (e)(2) of proposed § 1926.1210 (Entry supervisor requirements), and no new entry supervisor was immediately available to serve as a replacement. OSHA believes this proposed requirement is necessary because of the importance of the entry supervisor in implementing safe entry procedures.

Paragraph (d)(4). Under this proposed paragraph, employers must ensure that the entry supervisor cancels the entry permit under the three specified circumstances. Nothing in this proposed standard precludes an entry supervisor from being given authority to cancel permits for additional reasons not specified by this proposed paragraph. However, under this proposed provision, if any of these three circumstances occurs, then the employer must ensure that the entry supervisor cancels the entry permit.

If an evacuation is required under paragraph (d)(3) of proposed § 1926.1211 (Evacuation), or any of the conditions that require a reassessment under paragraph (b) of proposed § 1926.1207 occurs, the entry supervisor would be required to cancel the entry permit. This proposed requirement is necessary because if either of these circumstances arises, safe operations cannot be assured until the entry conditions and entry procedures are reassessed. It also is necessary to cancel the entry permit once the entry operations covered by the entry permit have been completed because, at the completion of those operations, conditions in the space may have changed. Safe re-entry would, therefore, necessitate a new permit.

Paragraph (e). In the event that supervisor duties are transferred from one entry supervisor to another entry supervisor, the employer would be required to ensure that the new entry supervisor meets the requirements specified for entry supervisors before assuming these duties. OSHA recognizes that entry supervisors will need to be replaced occasionally for various reasons (for example, shift changes, lunch breaks, and regular rotations to other tasks at the job site). This proposed requirement is necessary to ensure that the new entry supervisor has the requisite knowledge and authority to assume this role.

Paragraph (e)(1). The employer would be required to ensure that a new entry supervisor meets the requirements specified in paragraph (e)(2) of proposed § 1926.1210 (Entry supervisor requirements). In such cases, it is imperative that the replacement supervisor have the requisite knowledge and authority for serving as the entry supervisor.

Paragraph (e)(2). The employer would be required to ensure that the new entry supervisor reviews the entry permit and verifies that entry conditions are consistent with the planned conditions specified in the entry permit. OSHA believes that it is important for a new entry supervisor to review the entry permit and determine whether the planned entry conditions have been maintained, just as it was important for the original entry supervisor to do so upon initial entry into the space. Furthermore, by reviewing the permit the new entry supervisor will become familiar with the current entry conditions and check for consistency with the planned entry conditions specified in the permit. By ensuring that each entry supervisor verifies entry conditions immediately upon taking responsibility for the PRCS, the overall continuity of safety can be better maintained.

Paragraph (e)(3). The employer would be required to ensure that the new entry supervisor also signs the entry permit. The purpose of this proposed requirement is to distinguish the current entry supervisor on the job site from the individual he/she has replaced. Because the entry supervisor may need to be summoned in time of emergency, it is a benefit to have information about the conditions of the PRCS, and the persons responsible for safe entry into the space, available in one place. In addition, the signature requirement underscores to the employer and the entry supervisor the importance of his/her determination that the prerequisites for safe entry listed in the permit are being met.

Paragraph (f). The provisions of this proposed paragraph list the duties an attendant must perform to maintain a safe work environment in the PRCS while any authorized entrant is in a PRCS.

Paragraph (f)(1). The employer would be required to ensure that each attendant continuously maintains an accurate count of the authorized entrants who are in the PRCS. A continuously accurate count is necessary because, in the event of an evacuation, it would be needed to ascertain if all of the entrants have exited the space.

Paragraph (f)(2). The employer would be required to ensure that the attendant has the means to accurately identify authorized entrants who are in the PRCS; paragraph (a)(2)(ii) of proposed § 1926.1214 (Personnel, equipment, and procedures) provides information regarding methods that employers may use to meet this proposed requirement. The Agency believes that this proposed requirement is necessary because in some instances, in the event of an evacuation in which not all authorized entrants exit the space, having the names of the authorized entrants can help in determining the location of the employees who remain in the PRCS, thereby assisting in their rescue.

Paragraph (f)(3). The employer would be required to ensure that an attendant remains at a location outside of the PRCS that allows the attendant to fully perform the duties and responsibilities specified in this proposed section, and does so until properly relieved by another attendant. Accordingly, the attendant would be prohibited from entering the PRCS while performing attendant duties. The reasons for prohibiting the attendant from entering the space were explained above with respect to paragraph (f) of proposed § 1926.1210 (Attendant). The attendant also is prohibited from entering for rescue purposes unless all of the following occur: He/she is relieved of his/her assignment as an attendant and replaced by another attendant, and has been trained and equipped to perform an entry rescue in accordance with proposed § 1926.1213 (PRCS—rescue criteria).

Note that, under this proposed provision, an attendant must remain outside the PRCS and therefore is prohibited from simultaneously serving as an attendant and authorized entrant. This prohibition is needed because the two functions are incompatible. The attendant must be outside the space at all times so that, if an unsafe condition arises in the space, the attendant will not be affected by that condition. As the key link in arranging for the rescue of the entrants, it is critical that the attendant not be affected by those conditions.

Paragraph (f)(4). The employer would be required to ensure that an attendant monitors entry conditions to determine if they are consistent with the entry permit. Given the speed with which some PRCS hazards can incapacitate and kill authorized entrants, it is essential that the attendant recognize any changes in entry conditions that would indicate that the PRCS must be evacuated. OSHA believes that the earlier the attendant detects changes in entry conditions, the more probable that self-rescue of the entrants can be achieved in lieu of performing other rescue procedures. Monitoring the conditions within the PRCS is a critical element in such a system.

Paragraph (f)(5). The employer would be required to ensure that the attendant communicates with authorized entrants as necessary to monitor their status and to alert them of the need to evacuate the PRCS as specified below in paragraph (g)(2) of proposed § 1926.1211. OSHA believes that an authorized entrant's communication with the attendant provides information that the attendant needs to determine if the entry can be allowed to continue. For example, subtle behavioral changes detected in the entrant's speech or deviation from set communication procedures could alert the attendant that it is necessary to evacuate or rescue the entrant. In addition, if the need arises, the attendant must communicate an order to evacuate to the entrants since the entrants may not know that there is an emergency.

Paragraph (f)(6). The employer would be required to ensure that the attendant monitors activities inside and outside the PRCS to determine if the PRCS remains safe for authorized entrants.

This proposed requirement is similar to paragraph (f)(4) of proposed § 1926.1211, except the focus is on activities that may adversely influence conditions in the PRCS. As explained below regarding paragraph (f)(12)(i)(D) of proposed § 1926.1211, activities outside the space may pose dangers to the authorized entrants in the PRCS. Typically, the authorized entrants will not be able to see or hear what is going on outside the PRCS, and will be preoccupied with their tasks in the space. Also, the authorized entrants may not be aware of adverse effects of activities that are taking place inside the space. Consequently, the attendant needs to have a high level of awareness about how activities occurring inside and outside the space may affect the authorized entrants.

Paragraph (f)(7). The employer would be required to ensure that the attendant informs the employer when a non-entry or entry rescue begins, or when an authorized entrant may need medical aid or assistance in escaping from the PRCS. Initiation of a rescue, or a belief by the attendant that there may be a need for medical assistance or assistance in escaping the PRCS, signals a serious incident in which additional help may be needed. That information needs to be conveyed to the employer so that arrangements for such additional help, if necessary, can be facilitated. It also informs the employer that the PRCS may need to be reassessed before additional work can take place inside the space.

Paragraph (f)(8). This proposed provision would require employers to ensure that the attendant performs non-entry rescues as specified below by paragraph (h)(1) of this proposed section and by paragraph (a) of proposed § 1926.1213 (Non-entry rescue criteria). When properly executed, the attendant's performance of non-entry rescue can be the fastest and most effective means of successfully rescuing an entrant, while preventing injuries and deaths that may result from improperly executed entry rescue operations.

Paragraph (f)(9). The employer would be required to prohibit the attendant from entering the PRCS for rescue purposes unless the employer provides the appropriate training and equipment specified below in paragraph (c) of proposed § 1926.1213 (Protecting and training rescue-service employees), and ensures that another attendant properly relieves the attendant prior to performing the entry rescue. As discussed above in paragraph (f)(3) of proposed § 1926.1211, the attendant must remain outside of the PRCS during a rescue operation until relieved by another attendant. Only when the relieved attendant is equipped and trained to perform a rescue in accordance with this proposed standard would that person be permitted to enter the PRCS for a rescue.

OSHA believes that these requirements are necessary to prevent multiple fatalities occurring when an untrained and unequipped attendant discovers that a co-worker has been incapacitated inside a PRCS and enters the PRCS to rescue the victim, only to also become incapacitated. Proper training and equipment, as well as an attendant outside the space, are prerequisites for safely rescuing, and rendering appropriate medical assistance to, the injured or incapacitated authorized entrant.

Paragraph (f)(10). The employer would be required to prohibit the attendant from performing any task that would interfere with the primary duty of monitoring and protecting the authorized entrants. The Agency believes that authorized entrants will be endangered if the attendant is distracted from these duties. If an attendant performs a task that diverts his/her attention from the attendant duties, an emergency condition inside or outside the space could go undetected until it is too late. OSHA also recognizes that some tasks, particularly those that enhance the attendant's knowledge of conditions in the permit space, can be performed safely by the attendant. For example, passing tools to authorized entrants and remote monitoring of the atmosphere of the PRCS are among the types of duties that would be permitted, provided that the attendant does not enter the PRCS. Activities requiring close and/or prolonged concentration, or those requiring that the attendant be away from his/her post outside the PRCS, would likely interfere with attendant duties and, thus, could generally not be assigned to or performed by an attendant.

Paragraph (f)(11). The employer would be required to ensure that an attendant warns any individual who is not an authorized entrant and approaches the PRCS to stay away from the PRCS. If a person enters the space who is not an authorized entrant, the attendant must tell the individual to exit the space immediately and inform the entrants and entry supervisor of the unauthorized entry. OSHA recognizes that there are individuals who may mistakenly believe that they are supposed to work on a task in the space or who may simply wander by or into the space unaware of the dangers of the PRCS. Paragraph (a)(1) of proposed § 1926.1209 would require the employer to notify the controlling contractor and the employees the employer anticipates will be working in or near the PRCS, and their authorized representatives, about the location of and dangers posed by the space. However, if someone other than an authorized entrant happens to approach the PRCS, OSHA believes it is necessary to have the attendant make that individual aware that he/she must stay away from the PRCS.

Because an attendant may not have supervisory authority, or because the errant individual may work for another contractor at a multi-employer construction site, an attendant may not have the authority to stop unauthorized individuals from entering the PRCS or require them to exit once they are inside. Therefore, the proposed provision would require the attendant to notify the entry supervisor, along with the authorized entrants, of this situation.

Paragraph (f)(12). The employer would be required to ensure that the attendant orders the authorized entrants to exit the space as quickly as possible when any of the conditions listed in provisions (f)(12)(i) or (f)(12)(ii) of this proposed paragraph exist. This responsibility mirrors the requirements for entry supervisors specified in paragraph (d)(3) of proposed § 1926.1211 (Evacuation).

Paragraph (g). Under the provisions of this proposed paragraph, the employer must ensure that authorized entrants perform specific duties that will ensure their safety during entry operations, or during evacuation or rescue from the PRCS. These duties include using retrieval equipment properly, communicating regularly with the attendant for monitoring purposes, informing the attendant of the effects of a hazard, and knowing the conditions requiring evacuation from the PRCS.

Paragraph (g)(1). The employer would be required to ensure that the authorized entrant properly uses the retrieval equipment as required in paragraphs (a)(1) through (a)(3) of proposed § 1926.1213. OSHA believes that proper use of such equipment is essential for preventing a rescue attempt itself from harming the incapacitated authorized entrant. An example of how many employers meet this obligation is through the implementation of safe work practices, and effective enforcement of those practices.

Paragraph (g)(2). The employer would be required to ensure that the authorized entrant communicates with the attendant as necessary to help the attendant effectively monitor the authorized entrant's status and, if necessary, so that the entrant can be told

to evacuate the PRCS according to paragraph (f)(5) of this proposed section. OSHA believes that the authorized entrant's communication with the attendant provides information that the attendant needs to know to determine whether there is a need to evacuate the PRCS.

Paragraph (g)(3). The employer would be required to ensure that each authorized entrant informs the attendant of any sign, symptom, unusual behavior, or other effect of a hazard. In some instances, a properly trained authorized entrant may be able to recognize and report his/her own symptoms, such as headache, dizziness, or slurred speech, and take the required action. In other cases, the authorized entrant, once the effects begin, will be unable to recognize or report them. In cases in which other, unimpaired, authorized entrants are in the PRCS, this proposed provision would require employers to ensure that these authorized entrants are properly trained to recognize signs, symptoms, and other hazard-exposure effects in other authorized entrants, and report these effects to the attendant.

Paragraph (g)(4). Under this proposed paragraph, employers would be required to ensure that authorized entrants evacuate the space as quickly as possible when any of the conditions described below in proposed paragraphs (g)(4)(i) and (g)(4)(ii) are present.

Paragraph (g)(4)(i). The employer would be required to ensure that each authorized entrant exits the PRCS as quickly as possible when the entry supervisor or the attendant orders the authorized entrant to evacuate the space. (Entry supervisors and attendants would have authority to order authorized entrants to evacuate the PRCS under paragraphs (d)(3) and (f)(12) of this proposed section, respectively.) It is essential that the authorized entrants understand the urgency of compliance with the command to evacuate, particularly because the attendant or entry supervisor may be aware of a hazard that the authorized entrant does not detect on his/her own. Even when there is disagreement between the entry supervisor and attendant as to whether to evacuate, the authorized entrant would be required under this proposed provision to evacuate if either the entry supervisor or the attendant orders the entrants to do so. OSHA believes that this proposed provision is necessary because emergencies within a confined space are time-sensitive, and the entry supervisor and attendant may have differing information as to the types of the hazards within the PRCS.

Paragraph (g)(4)(ii). This proposed provision lists the three conditions under which an employer would be required to ensure that an authorized entrant evacuates the PRCS. These conditions mirror the conditions under which an entry supervisor or attendant must order the entrants to exit the space specified above by paragraphs (d)(3)(i)(A) through (d)(3)(i)(C) and (f)(12)(i)(A) through (f)(12)(i)(C) of this proposed section. OSHA discussed the rationale for these conditions previously in this preamble under paragraphs (d)(3)(i)(A) through (d)(3)(i)(C) of this proposed section.

Paragraph (h). The provisions of this proposed paragraph specify the requirements for non-entry and entry rescue.

Paragraph (h)(1). This proposed paragraph sets forth the requirements for non-entry rescue.

Paragraph (h)(1)(i). According to this proposed provision, the employer must make available procedures and equipment for non-entry rescue that meet the requirements of paragraph (a) of proposed § 1926.1213 during the period when authorized entrants are in the PRCS. OSHA believes that compliance with the rescue requirements in paragraph (a) of proposed § 1926.1213 would enable an employer to extricate authorized entrants in a timely manner from PRCSs when uncontrolled hazards arise, thereby preventing the adverse consequences of exposure to these hazards.

The Agency recognizes that an employer who complies fully with this proposed standard may never need to rescue an authorized entrant. However, even with full compliance, problems could arise during entry operations resulting in a situation where employees are unprotected. Such extraordinary circumstances could subject an employee to hazards within the PRCS without warning, and leave the employee incapacitated. OSHA believes it is necessary to require employers to provide this critical non-entry rescue function for employees who work in PRCSs.

Paragraph (h)(1)(ii). This proposed paragraph would require that, unless the conditions specified in paragraph (h)(1)(iii) of this proposed section are present, the employer must initiate a non-entry rescue if there is either a need to evacuate the PRCS pursuant to paragraphs (d)(3), (f)(12), or (g)(4) of proposed § 1926.1211 and the employee is unable to evacuate without assistance; or a reasonable probability exists that an employee may need immediate medical aid and is unable to exit the PRCS without assistance. In many cases entry rescue would take longer than non-entry rescue. This provision is necessary to ensure that the authorized entrants are rescued as soon as possible to maximize their chance of survival and limiting their injuries, as well as minimizing risk of injury to the rescue-service employees.

Paragraph (h)(1)(iii). This proposed provision would prohibit the initiation of a non-entry rescue if doing so would present a greater hazard to the employee than sole reliance on entry rescue (for example, where the configuration of the space would cause the retrieval lines to not work or result in greater injury to the employee than injury from waiting for entry rescue). This proposed provision acknowledges that there are specific situations where non-entry rescue would not be appropriate; it is aimed at preventing additional injuries or fatalities to an authorized entrant caused by use of non-entry equipment and methods that are incompatible with the conditions of the PRCS.

Paragraph (h)(2). This proposed paragraph specifies the following four situations in which employers would have to immediately summon an entry rescue service: (1) A non-entry rescue is initiated; (2) there is a need to evacuate pursuant to paragraphs (d)(3), (f)(12), or (g)(4) of proposed § 1926.1211, and the employee is unable to evacuate without assistance; (3) there is a reasonable probability that an employee may need immediate medical aid and is unable to exit the PRCS without assistance; or (4) if a non-entry rescue is prohibited as specified in paragraph (h)(1)(iii) of this proposed section.

In the first situation, a non-entry rescue may not be successful—that is, for unforeseen reasons, the attendant may not be able to get the authorized entrant out quickly, or at all. To prevent such a situation from resulting in injury or death, it is necessary that an entry rescue service already be in the process of responding to the emergency. Summoning the entry rescue service at the same time that the non-entry rescue is initiated minimizes the likelihood of additional injuries or death.

If an employer fails to initiate a non-entry rescue as required by paragraph (h)(1)(ii)(A) and (h)(1)(ii)(B) of this proposed section, under the second and third situations, they must still summon an entry rescue service when: there is a need to evacuate the PRCS pursuant to paragraphs (d)(3), (f)(12), or (g)(4) of proposed § 1926.1211, and the employee is unable to evacuate without assistance; or a reasonable probability exists that an employee may need immediate medical aid and is unable to

exit the PRCS without assistance. This proposed provision emphasizes an employer's continuing responsibility to ensure that employees are rescued from a PRCS when necessary.

In the event that an authorized entrant needs to be rescued but the employer is precluded from initiating a non-entry rescue under paragraph (h)(1)(iii) of this proposed section, the fourth situation would require the employer to summon the entry rescue service because it is the only means of rescuing the authorized entrant.

Section 1926.1212—PRCS—Terminating Entry

This proposed section specifies what, at a minimum, needs to be done at the completion of work within a PRCS to ensure a safe termination of entry.

Paragraph (a). The requirements described in this proposed paragraph cover procedures for terminating entry into a PRCS under both planned and emergency conditions. Before entry, an employer must have in place procedures for safely terminating entry into the PRCS. Paragraph (f) of proposed § 1926.1209 (Safe termination procedures) requires that this procedure be developed before entry into the PRCS. The employer must implement these procedures when warranted by either planned or emergency conditions. The safe termination of entry operations includes preventing any further entry into the PRCS by employees (except for entry rescue services), and, when required, the safe evacuation of employees in the affected PRCS. This proposed provision is necessary to ensure that employees are not harmed in the process of terminating the entry. For example, it may be necessary for certain construction operations and tools near an entrance/exit to be stopped and secured before employees begin to exit.

Paragraph (b). This proposed provision specifies that the employer must ensure that a PRCS entry supervisor terminates the entry and cancels the permit when the entry operation covered by the permit has been completed in the designated PRCS, upon expiration of the entry permit, completion of entry operations covered by the permit, any of the indications that require a reassessment under paragraph (b) of proposed § 1926.1207, or evacuation required under paragraph (d)(3) of proposed § 1926.12ll, whichever occurs first. When the time limit specified by the entry permit expires, even when work remains to be performed in the PRCS, the entry supervisor must terminate entry, cancel the permit, and re-issue a new permit in accordance with paragraph (a) of proposed § 1926.1210 (Entry permit) before allowing further work in the PRCS. In addition, the employer must keep all cancelled entry permits in accordance with the requirements proposed below in paragraph (b) of proposed § 1926.1219 (Retaining entry permits). Requiring the entry supervisor to terminate the entry permit under the specified conditions ensures that the employees will exit the space in accordance with planned conditions or to avoid encountering hazards arising from unplanned conditions within the PRCS.

This proposed paragraph also contains a note stating that no employees can reenter the space until the employer: identifies the physical and atmospheric hazards in accordance with paragraph (b) of proposed § 1926.1204; follows the classification procedures specified by proposed § 1926.1206 (Classification and precautions); and meets the accident-prevention and -protection requirements applicable to the space classification selected by the employer. This note serves to remind employers that it is necessary to ensure that the spaces are correctly assessed and that employees receive appropriate protection prior to reentering the space.

Section 1926.1213—PRCS—Rescue Criteria

Paragraph (a). This proposed paragraph would require the employer to ensure that the training, equipment, and procedures specified for a safe non-entry rescue are fulfilled. OSHA believes that meeting these criteria would decrease the risk that an incapacitated entrant would sustain an injury or be killed as a result of the rescue.

Paragraph (a)(1). This proposed paragraph would require the employer to ensure that attendants and other employees designated to perform non-entry rescue acquire the knowledge and skills necessary for the safe performance of non-entry rescue. This proposed requirement is necessary to ensure that these employees perform non-entry rescue safely and effectively.

Paragraph (a)(2). This proposed paragraph lists minimum criteria for a retrieval system that OSHA believes are essential for ensuring the safe non-entry retrieval of employees during an emergency. The criteria are listed below in proposed paragraphs (a)(2)(i) through (a)(2)(iv).

Paragraph (a)(2)(i). The retrieval system would be required to be available as soon as needed by the attendant or other rescue service. This proposed requirement is an important element of a preplanned rescue since it would eliminate further risk of injury and death resulting from time consumed in locating a retrieval system and bringing it to the PRCS.

Paragraph (a)(2)(ii). The retrieval system used would have to be designed and manufactured for personnel retrieval. This proposed provision also allows for the use of job-made hoisting systems if these systems are approved for personnel hoisting by a registered professional engineer prior to use in PRCS entry operations. However, commercial hoisting systems not designed and manufactured specifically for personnel hoisting would not be permissible under this proposed provision because OSHA believes they cannot be used safely for this purpose. This proposed requirement would eliminate further injuries and deaths of employees which could occur from the use of retrieval equipment that was not designed specifically for personnel retrieval. The provision would give the employer flexibility in its choice of retrieval system by allowing a registered professional engineer to approve a job-made system. OSHA believes that either option would ensure that the retrieval system will meet the design specifications needed to operate safely during a non-entry rescue as required by this proposed standard.

Paragraph (a)(2)(iii). The employer would be required to provide a retrieval system that the attendant or other rescue service can operate effectively. This proposed provision would eliminate employee injuries and deaths by ensuring that the retrieval system is usable and effective. For example, this proposed provision would prohibit a system that requires too much strength or stamina to operate, such as a hand-cranked winch with insufficient gearing. The system must also be effective; for example, if a particular system pulled at such a slow a rate that an entrant could not be retrieved in time to prevent further injury, it would violate this proposed provision.

Paragraph (a)(2)(iv). The employer would be required to ensure that the retrieval system includes the use of a chest or full-body harness and a retrieval line. OSHA believes that it is necessary for such a device to be used as part of the retrieval system to prevent employees from suffering further injuries during a rescue that result from unequal distribution of force on the body. This proposed requirement would be consistent with the requirements specified for fall-protection systems in 29 CFR 1926.502 (Fall protection systems criteria and practices) of 29 CFR

Part 1926 subpart M (Fall Protection). OSHA believes that when an employee must be suspended, even during a rescue, a chest or full-body harness is needed to prevent further injury to the employee.

Paragraph (a)(2)(iv)(A). The employer would be required to have one end of the retrieval line attached to the chest or full-body harness in a manner that allows the attendant or other rescue service to remove the entrant from the PRCS without causing further injury. This proposed provision is similar to paragraph (k)(3)(i) of the general industry standard for confined spaces in that the proposed provision allows some flexibility in how the retrieval line must be connected to the chest or full-body harness of the employee in need of rescue. OSHA believes that requiring the retrieval line to be attached at the center of the entrant's back near shoulder level, or above an entrant's head, is too limiting. For example, extracting an employer from the confined space head first during a horizontal retrieval could cause more injuries to the employee. Accordingly, this proposed provision does not limit the methods utilized by the employer to safely rescue employees who perform construction work in various PRCS configurations. Therefore, OSHA proposes a performance-based provision that it believes would maintain the level of required employee protection while allowing employers flexibility in choosing effective retrieval systems.

Paragraph (a)(2)(iv)(B). The employer would be required to have the other end of the retrieval line attached to a mechanical retrieval device or fixed anchor point outside the PRCS in a manner that allows rescue to begin as soon as the attendant or other rescue service detects or learns of the need for rescue. Movable equipment (for example, earth-moving equipment), that is sufficiently heavy to serve as an anchor point, may be used for this purpose only if effectively locked out or tagged out. This proposed provision would minimize the elapsed time between an attendant determining that a rescue is needed and commencing the PRCS rescue operation by requiring the essential parts of the retrieval system to already be in place and attached. This proposed requirement would eliminate further injury or death due to the delay resulting from locating and attaching retrieval system parts and equipment. While the provision would allow the use of suitably heavy moveable equipment (such as earthmoving equipment) to serve as an anchor point, it would require that such equipment be effectively locked out or tagged out to ensure that the equipment is not moved while serving as an anchor point.

Paragraph (a)(3). For retrievals involving vertical distances over five feet (1.52 m), a mechanical retrieval device would be required to be provided and used. This device must not be used for entry into the PRCS unless it is designed for that purpose. OSHA believes that securing the line to an anchor point or using a simple pulley for this purpose could endanger the authorized entrant because most attendants do not have sufficient strength and stamina to lift a disabled entrant over a vertical distance of more than five feet. Therefore, the proposed requirement would ensure that the attendant or other rescue personnel be assisted by a mechanical device so that the entrant can be successfully extracted. The Agency considered that there will often be difficulties in setting up such equipment due to the general lack of room to position the equipment above the entry point of a PRCS, as well as the need to keep that entry clear for the attendant to observe the authorized entrants while they are working. Nevertheless, OSHA believes that the mechanical device is critical for entrant rescues involving these vertical spaces. However, powered winches, overhead cranes, fork trucks, and similar devices are not appropriate for this purpose because they may harm attendants (for example, impale them, damage limbs).

Paragraph (a)(4). This proposed paragraph would clarify the types of equipment that are unsuitable and prohibited for use in a PRCS retrieval system. OSHA believes that by providing this information, injuries and deaths that result from the use of unsuitable retrieval equipment during rescue operations would be reduced. Descriptions of unsuitable retrieval equipment are provided below in paragraphs (a)(4)(i) through (a)(4)(iii).

Paragraph (a)(4)(i). The use of equipment that increases the overall risk of entry or impedes rescue of an authorized entrant would be prohibited. This proposed provision would eliminate injuries and deaths that would occur when such equipment is used for rescue.

Paragraph (a)(4)(ii). The use of retrieval lines that have a reasonable probability of becoming entangled with the retrieval lines used by other authorized entrants, or due to the internal configuration of the PRCS, would be prohibited. The Agency believes that there are situations where the retrieval lines of two or more employees can get entangled, such as where the employees' work necessitates them moving around each other. There are also a variety of situations where the configuration of the PRCS would inhibit a non-entry rescue and cause further serious injury to authorized entrants in need of rescue. For example, the PRCS may have objects or equipment protruding from its walls or sharp corners that may damage rescue equipment or inhibit the use of certain types of non-entry rescue equipment.

Paragraph (a)(4)(iii). Wristlets or ankle straps would be prohibited from being used as attachment points for retrieval lines, unless the employer can demonstrate that: the use of a harness is infeasible or creates a greater hazard for safe rescue than wristlets or ankle straps; and wristlets or ankle straps are the safest alternative available. The Agency believes that this proposed requirement is necessary due to an increased risk of an employee being injured during a rescue when the retrieval lines are attached to wristlets or ankle straps as compared with being attached to a harness.

Paragraph (a)(5). The employer would be required to ensure that the employees designated to perform non-entry rescue (including attendants, if applicable) have access to the PRCS the authorized entrant will enter or to a Simulated PRCS, to develop appropriate rescue plans and practice rescue operations prior to beginning entry operations. OSHA believes a rescue service needs to know the location, configuration, and other relevant aspects of a PRCS to develop and practice effective rescue procedures.

Paragraph (b). The employer would be required to ensure that specified minimum requirements must be met by the entry rescue service so that it can effectively perform entry rescues. The provision also specifies information the employer would be required to provide to the entry rescue service before an entry rescue is made. In short, the employer must make sure that, whichever rescue service is used, it has the necessary rescue capabilities.

Paragraph (b)(1). This proposed paragraph contains requirements that would ensure that the entry rescue service can effectively perform entry-rescue tasks in the PRCS. OSHA notes that during the rulemaking for the general industry confined-spaces standard, a question was raised as to whether an entry rescue service is limited to off-site rescue teams. The Agency made clear in that rulemaking that an employer could use an onsite team as long as all the criteria outlined in the standard were met. That rationale is equally applicable to this proposed rule. Consequently, the term ''rescue service'' in this proposed standard does

not exclude the use of an onsite entry rescue service.

Paragraph (b)(1)(i). Under this proposed provision, in evaluating the entry rescue service, the employer would be required to determine that the entry rescue service can respond to a rescue summons in a timely manner. The provision defines timeliness as a function of how quickly an entry rescue service needs to reach an employee to prevent further serious physical harm that may result from hazards in the PRCS while waiting to be rescued.

Paragraph (b)(1)(ii). Prior to using an entry rescue service for entry-rescue purposes, an employer would be required to provide the entry rescue service with access to the PRCS the authorized entrants will enter, or to a Simulated PRCS that is representative of the particular PRCS. OSHA believes that this proposed provision will allow the entry rescue service to become familiar with the configuration and features of the PRCS to which the employer may summon it to perform rescue operations, and thereby develop appropriate rescue plans and practice rescue operations. Access to the PRCS or a Simulated PRCS during planning and practice increases the probability that rescue operations will proceed more efficiently and effectively, thereby reducing the probability of serious injury or death to authorized entrants during an actual entry-rescue operation. Practicing rescues in a PRCS or Simulated PRCS also highlights deficiencies in rescue procedures, and allows for revisions of those procedures before they could adversely affect the safety of rescue-service employees and employees in need of rescue during an actual rescue operation.

Paragraph (b)(2). Prior to the entry rescue service entering a PRCS for any purpose, the employer would be required to inform the entry rescue service of any physical and atmospheric hazards it is likely to confront in the PRCS, as well as any other relevant information known by the employer. This proposed provision would provide the entry rescue service with available information about hazards and conditions within the confined space so as to protect the rescue-service employees who enter the confined space for training, entry operations, or any other purpose.

Paragraph (c). This proposed paragraph would require employers who use their own employees as a rescue service to provide those employees with the training and equipment needed to safely perform entry-rescue operations. OSHA believes that by meeting these minimum training and equipment requirements, the employer will eliminate employee injuries and deaths that could result from a lack of proficiency in the implementation of rescue procedures and the use of related rescue equipment. These training and equipment requirements are described below in paragraphs (c)(1) through (c)(6)(ii)

Paragraph (c)(1). The employer would be required to provide its rescue-service employees with the personal protective equipment (PPE) and rescue equipment necessary for them to enter and safely perform PRCS rescue operations. OSHA believes the provisions in the proposed paragraph will help the employer prevent injuries and deaths that could occur without the appropriate PPE and equipment needed to safely perform PRCS entry rescues.

Paragraph (c)(2). The employer would be required to train its rescue-service employees in the proper use of the PPE and rescue equipment required in paragraph (c)(1) of this proposed section. Training regarding the proper use of rescue equipment would include the care and inspection of breathing and ventilation gear, as well as emergency-evacuation equipment, and the use of two-way radios and fire-fighting equipment. OSHA believes that requiring employee proficiency in the use of necessary PPE and rescue equipment will help the employer eliminate injuries and deaths caused by the improper use of such equipment.

Paragraph (c)(3). An employer would be required to train the members of its rescue service to perform any rescue duties assigned to them. This proposed provision would ensure that rescue-service employees can perform their assigned duties proficiently and safely under hazardous PRCS conditions. Lack of such training would endanger both the rescue-service employees, as well as others affected by the PRCS rescue operations.

Paragraph (c)(4). The employer would be required to train its rescue-service employees in basic first-aid and in cardiopulmonary resuscitation (CPR). The Agency believes this proposed requirement is necessary because of the hazards and resultant injuries that may occur in PRCSs. This proposed requirement also would improve the probability that the injured employees would survive until higher levels of medical attention become available.

Paragraph (c)(5). Employers would be required to ensure that at least one of the rescue-service employees who participates in the onsite rescue operations holds current certification in first-aid, including CPR. OSHA believes that, in combination with the requirement in paragraph (c)(4) of this proposed section, there would be sufficient first-aid and CPR capability at a rescue scene. This proposed provision is identical to paragraph (k)(1)(iv) of the general industry confined-spaces standard, and also meets the requirements for first-aid services specified by 29 CFR 1926.50(c).

Paragraph (c)(6). Under this proposed paragraph, employers would be required to ensure that the rescue-service employees practice rescue operations at least once prior to the beginning of entry operations and at least once every 12 months thereafter. OSHA believes this training requirement for entry rescue-service employees is necessary to maintain proficiency in entry-rescue procedures and rescue equipment use. This training would also ensure that the entry rescue-service employees are trained on all revisions to entry-rescue procedures and are cognizant of any other new information regarding entry rescue.

In a related requirement, proposed § 1926.1213(b) specifies that employers must ensure that an entry rescue service can effectively perform an entry rescue in the PRCS that authorized entrants will enter. Confirming that the entry rescue service meets this requirement prior to any authorized entrants entering the PRCS provides a means of verifying that an entry rescue service can effectively perform a rescue at the employer's worksite.

Paragraph (c)(6)(i). Employers would be required to ensure that rescue-service employees practice the removal of dummies, mannequins, or people from a PRCS or from a Simulated PRCS in compliance with the requirements of this proposed standard. By definition, Simulated PRCSs must also, with respect to size, configuration, entrance openings, and accessibility, conform to the types of PRCSs from which actual rescues would be performed. When any PRCS used for practice contains hazards, even if no other work/tasks are performed within the PRCS, the employer must ensure that the PRCS requirements of this proposed standard are met before any rescue-service employees enter the PRCS. The Agency believes that this type of practice is necessary to ensure that the entry rescue service will have the capability to perform an actual rescue in a PRCS.

Paragraph (c)(6)(ii). Employers would be required to ensure that the same PPE, retrieval, and rescue equipment that will be used to perform an actual rescue is used for practicing rescues. This proposed requirement would ensure that rescue-service employees' training is directly applicable to an actual PRCS

rescue operation, thereby minimizing confusion and errors that could lead to injuries and deaths when performing actual rescue operations.

Paragraph (d). This proposed paragraph would exempt an employer from providing the practice required above in paragraph (c)(6) of this proposed section when the rescue-service employees, within the previous 12 months, properly performed a rescue operation in a similar or the same PRCS the authorized entrants will enter. OSHA believes the effective performance of such previous PRCS entry rescues would be at least the equivalent of the practice required under paragraph (c)(6) of this proposed section. In contrast, the unsatisfactory performance of a rescue operation during the preceding 12-month period (for example, rescue team members improperly used rescue equipment) would indicate the need for further practice, and would not meet the requirements of this proposed exemption.

Section 1926.1214—PRCS—Entry Permits

Paragraph (a). The provisions of this proposed paragraph specify the required contents of entry permits. Entry permits provide key information about hazards in the PRCS, the methods used to protect employees from those hazards, and specify who is authorized to perform work within the PRCS, their duties, and the extent of their authority with respect to safety in and around the PRCS. OSHA believes the use of this administrative tool would be essential to the employer in its efforts to ensure that work within a PRCS will be completed safely. Making the information on this document accessible to employers and employees affected by the hazards in and around the PRCS also allows them to maintain an elevated awareness of the conditions within the PRCS, as well as the equipment and procedures necessary for safe PRCS entry operations.

Paragraph (a)(1). This proposed provision lists the general-information requirements for entry permits.

Paragraph (a)(1)(i). The employer would be required to ensure that the entry permit contains the identification of the PRCS to be entered; the location of the PRCS could serve as its identification. This information would be needed to ensure that the correct permit is used for the PRCS.

Paragraph (a)(1)(ii). Employers would be required to list in the entry permit the purpose of the PRCS entry, including the tasks or jobs authorized entrants are to perform in the PRCS. This information is needed to confirm that the performance of each specific construction activity has been considered in the hazard assessment of the PRCS. The performance of construction activities within the PRCS that have not been evaluated for their effect on the conditions within the space could result in serious injury or death.

Paragraph (a)(1)(iii). The employer would be required to provide in the entry permit the effective date and the authorized duration of the permit. The effective date is the date on which authorized entrants may enter the PRCS as specified by other provisions of this proposed standard. The duration of the permit may not exceed the time required to complete the tasks or jobs identified above in paragraph (a)(1)(ii) of this proposed section, including the time necessary to set up and dismantle any tools or equipment required to perform the tasks or jobs. The employer need not list duration in terms of time, but instead may describe it in terms of the completion of tasks identified in the permit. For instance, the employer could describe the duration as ''welding and repair of water main'' or ''upgrading equipment in an electrical vault.'' One purpose of this provision is to ensure that employees engaged in PRCS operations are informed of the period during which conditions in the PRCS must meet planned conditions as specified in the entry permit. A second purpose is to place some reasonable limit on the duration of the permit, since a permit of unlimited duration is not likely to account for changed PRCS conditions.

Paragraph (a)(2). The employer would be required to specify in the entry permit the planned conditions necessary for safe entry into the PRCS. This proposed requirement would ensure that the authorized entrants, attendants, and entry supervisors have key information that can be readily referenced to confirm that the planned conditions within the PRCS are maintained.

Paragraph (a)(2)(i). The employer would be required to document information on entry permits regarding the physical and atmospheric hazards, methods of isolating, eliminating, and/or controlling these hazards, as well as hazard monitoring and testing results, and the levels at which hazards are to be maintained.

Paragraph (a)(2)(i)(A). Employers would be required to identify the physical and atmospheric hazards in the PRCS in the entry permit. This list, which must be consistent with proposed § 1926.1206 (Classification and precautions) and paragraph (a) of proposed § 1926.1208 (Permit-required confined spaces), must include all hazards, regardless of whether the employer protects the authorized entrants from the hazards by isolation, control, or personal protective equipment.

Paragraph (a)(2)(i)(B). Employers would be required to state the methods used to isolate or control hazards, or used to protect authorized entrants from the hazards within the PRCS. This information must be consistent with the requirements specified in paragraph (a) of proposed § 1926.1208 (Permit-required confined spaces) and proposed § 1926.1210 (PRCS—preparing for entry), and must include the methods used to isolate or control the hazards, the type of personal protective equipment provided, the methods used to monitor each hazard (including the use of early-warning systems, if required by proposed § 1926.1215 (Continuous-system PRCS)), and how frequently each hazard is to be monitored. (Note that under paragraph (b) of proposed § 1926.1211, monitoring of atmospheric hazards is required to be continuous unless the employer demonstrates that periodic monitoring is sufficient.) The permit need only refer to the procedures used to meet the requirements of this proposed paragraph in sufficient detail to enable employees to determine what measures are to be taken and how to perform those measures.

Paragraph (a)(2)(i)(C). Employers would be required to state in the entry permit the atmospheric-testing and -monitoring results obtained in paragraph (b) of proposed § 1926.1204, paragraph (a) of proposed § 1926.1211, paragraph (b) of proposed § 1926.1211, and paragraph (a)(1) of proposed § 1926.1215. In addition, the employer must include the type and brand of the equipment used to perform atmospheric testing or monitoring; the names and signatures or initials of those individuals who performed the testing and monitoring; and the date and time (or time period for continuous monitoring) they performed each test and conducted monitoring.

Entering the testing and monitoring results in the permit enables the entry supervisor, attendants, and authorized entrants to determine readily whether planned conditions exist with regard to atmospheric hazards in the PRCS. This information could also be used to identify atmospheric conditions within the PRCS that need to be monitored frequently because atmospheric conditions tend to rise rapidly to hazardous levels. Providing information on the type and brand of equipment

used for atmospheric testing and monitoring would enable the entry supervisor to determine whether testing and monitoring are being conducted correctly, that is, according to the equipment manufacturer's instructions. Listing the names of those who performed the testing and monitoring would identify a point of contact to which entry supervisors and attendants can direct questions they may have regarding the results and procedures. The date and time (or, for continuous monitoring, a time period) would provide a basis for detecting dangerous trends in atmospheric conditions that may indicate that more frequent observation of the atmospheric data is necessary.

Paragraph (a)(2)(i)(D). Employers would be required to list the conditions under which authorized entrants can work safely in the PRCS, including hazard levels and methods of employee protection, consistent with the requirements specified in paragraph (b) of proposed § 1926.1208 (Planned conditions). The list would include the levels which oxygen, flammable gases and vapors, and other hazardous substances must meet before and during PRCS entry. Additional information regarding PRCS conditions would include, for example, the methods used to maintain a water hazard at safe levels. This proposed provision also requires employers, when applicable, to provide the ventilation-malfunction determinations made in paragraph (b)(2) of proposed § 1926.1208. Providing these determinations would inform employees (for example, entry supervisors, attendants, and authorized entrants) regarding the time required for the entrants to evacuate the PRCS should the ventilation system fail. Compliance with these proposed provisions would allow authorized entrants, attendants, and entry supervisors to reference the planned conditions stated in the permit and respond quickly to any deviations in these conditions, including ventilation-system failure.

Paragraph (a)(2)(ii). The provisions of this proposed paragraph would require the employer to ensure that entry permits identify the: authorized entrants, attendants, and entry supervisor; methods used to maintain contact between authorized entrants and attendants; the rescue service and the methods, including communication equipment and telephone numbers, for summoning this service; and other equipment required to perform PRCS entry operations.

Paragraph (a)(2)(ii)(A). Employers would be required to identify by name or other effective identifier (such as initials or an identification number) the authorized entrants currently in the PRCS. This proposed requirement can be met by referring in the entry permit to a system such as a roster or tracking system used to keep track of who is currently in the PRCS. The availability of this information would enable the attendant or entry supervisor to quickly and accurately account for entrants who might still be in the PRCS when an emergency occurs. A second purpose is to provide assurance that all authorized entrants have exited the PRCS at the end of entry operations.

OSHA believes that, as long as the system accurately tracks who is in the PRCS at any given moment, and as long as the attendant has immediate access to the system, the attendant will be able to confirm the complete evacuation of a space. Additionally, the rescue service will be able to account for all employees working inside the PRCS in the event of an emergency. A tracking system that lists the names of the employees who the employer designates as authorized entrants, but does not accurately account for the number of employees inside the PRCS at all times, would not meet the requirements of this proposed paragraph. Merely maintaining a list of authorized entrants, who may or may not be on the job site or inside the PRCS, would not help the employer determine how many authorized entrants are left inside the PRCS should an evacuation be necessary. Accordingly, OSHA believes that it is extremely important for the employer to be able to confirm that all authorized entrants have exited the PRCS during an evacuation. However, a tracking system that only keeps count of the number of authorized entrants inside the PRCS, without providing their names or other identifiers, also is not acceptable; knowing the name or other identifier of each entrant makes it easier for the rescuers to determine where the entrant is assigned to work in the PRCS, and thereby determine the entrant's probable location.

Paragraph (a)(2)(ii)(B). The employer would be required to list the names of the current attendants in the entry permit. This proposed requirement would facilitate identifying attendants quickly and easily, thereby expediting communications with them, which is necessary for the performance of safe PRCS entry operations and for the performance of specified duties during emergency situations. Without this proposed requirement, valuable time could be wasted attempting to find the attendant responsible for protecting authorized entrants during an emergency.

Paragraph (a)(2)(ii)(C). The employer would be required to ensure that the entry permit contains the name of the current entry supervisor and the entry supervisor who originally authorized entry into the PRCS. In addition, this proposed paragraph would require the signature or initials of both of these individuals. In the event that the original entry supervisor and the current entry supervisor are the same individual, his/her name must appear twice in the entry permit: once as the original entry supervisor, and again as the current supervisor. These proposed requirements serve the same purpose described above for attendants in paragraph (a)(2)(ii)(B) of this proposed section. It is unnecessary to list the names of individuals who could assume entry-supervisor responsibilities or the names of individuals who have assumed these responsibilities between the original and current supervisors. Therefore, the names of the current entry supervisor and the original entry supervisor, with no other entry supervisor names, are the only names required to be in the permit.

Paragraph (a)(2)(ii)(D). Employers would be required to ensure that the entry permit contains a list of the communication methods used to maintain contact between attendants and authorized entrants during entry operations. OSHA notes that establishing a routine for maintaining contact between attendants and authorized entrants would help attendants detect problems within the PRCS. The Agency has not prescribed any particular means or procedure for communication because OSHA anticipates that the procedures chosen will need to vary according to the circumstances of the particular workplaces. However, the means of communication chosen must enable the attendants and the entrants to maintain effective and continuous contact.

Paragraph (a)(2)(ii)(E). This proposed paragraph would require that employers list in the entry permit the rescue service that is to be summoned in an emergency, and the methods (including the communication equipment to use and the telephone numbers to call) for summoning this service. Identification of the rescue service and the methods for summoning it would enable attendants to summon the rescue service immediately in case of emergency. Including the other pertinent information, such as communication equipment and emergency telephone numbers, in the entry permit would

allow attendants to avoid errors and delays in contacting the rescue service.

Paragraph (a)(2)(ii)(F). Under this proposed paragraph, employers are to ensure that the permit contains a list of equipment to be provided for PRCS operations as determined under paragraph (j) of proposed § 1926.1210 (Equipment) and proposed § 1926.1218 (Equipment). This equipment would typically include, for example, personal protective equipment, testing equipment, communications equipment, alarm systems, rescue equipment, and other equipment that the employer would provide to ensure compliance with paragraph (j) of proposed § 1926.1210 above. This proposed requirement provides employees with a ready reference to the equipment required for safe entry operations.

Paragraph (a)(3). The two provisions of this proposed paragraph specify additional safety-related information to include in the entry permit. This information is necessary to ensure that employees involved in entry operations are aware of the hazards and procedures associated with the PRCS.

Paragraph (a)(3)(i). Employers would be required to identify in the entry permit any other active permits issued to perform work in the PRCS (for example, hot-work permits). If the employer identifies additional permits, these additional permits may be, but are not required to be, attached to the entry permit to provide information about the activity covered by the permit to employees involved in the entry operations so they can take appropriate precautions.

Paragraph (a)(3)(ii). Employers would be required to list in the entry permit other safety-related information not required under paragraphs (a)(1), (a)(2), and (a)(3)(i) of this proposed section, including any problems encountered. Examples of such information may include: problems encountered in the PRCS; problems that an attendant, entry supervisor, or authorized entrant believes may be relevant to the safety of the entrants working in the space; or any other information that may be relevant to employee safety under these conditions.

Paragraph (b). According to the two provisions of this proposed paragraph, employers must review, at least annually, PRCS entries made during the previous 12 months. The employer must use the information described in these two provisions to perform this review. The purpose of this review is to evaluate the effectiveness of protection provided to employees involved in PRCS entries during this period. This proposed requirement would help ensure that future PRCS entries are completed in a similar way if the entries were successful, or are improved if any problems or concerns are discovered.

Paragraph (b)(1). To accomplish the entry-permit review, this proposed provision would require employers to use cancelled entry permits retained according to paragraph (b) of proposed § 1926.1219 (Retaining entry permits) below. This proposed requirement would be an important tool for identifying deficiencies in entry procedures used during the review period.

Paragraph (b)(2). Employers would be required to review any other information retained from previous entry operations. Employers would obtain this information from sources other than cancelled permits. For instance, any near-miss information would be helpful to determine what actions may be necessary to eliminate or reduce hazard exposure during PRCS entries.

These proposed provisions are necessary to ensure that employers use effective methods for protecting employees against the hazards in the PRCS. In this regard, many construction employers may not do PRCS work regularly, and it is important to use available information, including information from previous PRCS entries, to determine the effectiveness of the protection afforded to employees by previous practices before they begin new PRCS operations.

Paragraph (c). Employers would be required to retain entry permits in accordance with paragraph (b) of proposed § 1926.1219 (Retaining entry permits). (See paragraph (b) of proposed 1926.1219 for an explanation of this proposed requirement.)

Paragraph (d). Employers would be required to cancel entry permits in accordance with paragraph (d)(4) of proposed § 1926.1211 (Entry permit cancellation). (See paragraph (d)(4) of proposed § 1926.1211 above for an explanation of this proposed paragraph.)

Section 1926.1215—Continuous System—PRCS

The provisions of this proposed section cover the requirements for Continuous System-Permit-Required Confined Spaces (CS–PRCSs). Because these spaces are a special type of PRCS, employers would be required to meet these proposed provisions, as well as the requirements for PRCS entry prescribed by proposed §§ 1926.1208 through 1926.1214. One example of this type of system is a sewer in which a storm at another location could send water or hazardous materials to the CS–PRCS where employees are working. Accordingly, the following proposed paragraphs would provide employees with protection from the unique hazards associated with CS–PRCSs.

Paragraph (a). Under this proposed paragraph employers would be required to both meet the requirements in proposed §§ 1926.1208 through 1926.1214 and the additional requirements listed in this proposed section.

Paragraph (a)(1). Employers would be required to monitor CS–PRCSs continuously for atmospheric hazards. These spaces, relative to PRCSs, have an enhanced risk of unexpected changes in hazard levels because of atmospheric hazards that could migrate uncontrolled from other areas of the CS–PRCS. By monitoring the space continuously, employers would detect rising levels of a hazardous atmosphere or the introduction of a new atmospheric hazard before it is too late to warn the authorized entrants and evacuate them from the space (see discussion of proposed paragraph (b)(1) below). Employers may use periodic monitoring for this purpose if they can demonstrate that equipment for continuously monitoring a hazard is not commercially available; for example, continuous monitoring may not be available when the atmospheric hazard is a particulate. In such a case, the employer must be able to demonstrate that the periodic monitoring is of sufficient frequency to ensure that the atmospheric hazard is being controlled at safe levels as planned.

Paragraph (a)(2). Employers would be required to monitor continuously for non-isolated engulfment hazards using an early-warning system. (See the definition of ''early-warning system'' at proposed § 1926.1203 (Definitions applicable to this subpart).) Employers have flexibility in determining what type of early-warning system to use based on information they receive about the space and its hazards, as well as the employer's previous experience with CS–PRCSs. In some instances, the early-warning system can be as simple as posting lookouts with communication equipment at distances far enough upstream from the CS–PRCS to effectively communicate a warning to authorized entrants regarding any engulfment hazards. Another method would be to position detection and monitoring devices in areas connected to the CS–PRCS that will warn entrants effectively of an engulfment hazard in sufficient time for them to exit the space successfully.

Paragraph (b). This proposed paragraph specifies requirements for

additional equipment for a CS–PRCS. This equipment addresses migrating engulfment and atmospheric hazards that are present in CS–PRCSs. For example, these hazards can result when runoff from a heavy storm upstream in a sewer flows downstream into the area in which employees are working. Another example is when hazardous material is used in one part of a sewer and the hazardous atmospheres formed by the material migrate to the area in which the employees are working, causing serious harm. OSHA believes that migrating hazards, especially from distant areas, are common in CS–PRCSs. Accordingly, these requirements are necessary to protect authorized entrants from the additional hazards associated with CS–PRCSs, including engulfment and atmospheric hazards.

Paragraph (b)(1). The employer would be required to provide the equipment necessary to monitor atmospheric hazards in CS–PRCSs. The primary reason OSHA believes this proposed requirement is necessary is because of the increased potential for a hazardous atmosphere to migrate unpredictably into the work area after the employer assesses a CS–PRCS and work has begun. Because these work areas are susceptible to being suddenly affected by hazards from elsewhere in the system, OSHA believes that effective monitoring is the only way to ensure that such hazards will be detected before it is too late to warn and evacuate the entrants. An additional reason for including this proposed requirement is that construction crews often have limited or no experience working in a particular CS–PRCS. As a result, unlike many general industry settings, there may be little or no historical monitoring data available to help accurately predict probable peak hazard levels.

Paragraph (b)(2). The employer would be required to provide an early-warning system to monitor for non-isolated engulfment hazards. The employer has flexibility in determining what type of system to use based on information it has received about the CS–PRCS and its hazards, and based on the employer's experience with working within CS–PRCSs of this type. The system can be as simple as posting observers with communication equipment at distances far enough upstream from the work area to timely communicate a warning to the entrants working downstream. Another method would be to use detection/monitoring devices upstream that will trigger alarms at the entrants' work area in sufficient time for them to safely avoid upstream engulfment hazards moving in their direction.

Section 1926.1216—Controlled-Atmosphere Confined Spaces—Requirements for Classification and Accident Prevention and Protection

Paragraph (a). The provisions of this proposed paragraph would require employers to meet specific criteria to classify the space as a Controlled-Atmosphere Confined Space (CACS), and to protect employees from CACS hazards by implementing specific accident-prevention and -protection methods. When employers have determined that the atmospheric hazards can be controlled and the physical hazards can be isolated or eliminated, the proposed standard provides this alternative classification option, the CACS, which may be more efficient and less costly to implement than complying with the requirements for a PRCS. Note that when employers can identify and implement both the isolation methods for physical hazards and the control methods for atmospheric hazards without entering the space, they would not be required to comply with the PRCS requirements during that identification/implementation process. Also, the Agency considers the provisions proposed for CACS entry to be minimum safety requirements, and the employer may elect to comply with proposed PRCS requirements.

Paragraph (a)(1). Using the physical-hazard information obtained under paragraph (b) of proposed § 1926.1204, the employer would be required by this proposed provision to determine and implement methods for isolating physical hazards found in the CACS. By isolating the physical hazards, employers would provide employees with reliable and effective protection from such hazards.

Paragraph (a)(2)(i). Employers would be required to test for atmospheric hazards in the CACS using the methods specified above in proposed § 1926.1205 (Atmospheric testing and monitoring), and to use ventilation equipment to verify that ventilation alone is sufficient to control the atmospheric hazards at safe levels. Additionally, ventilation must consist of continuous forced-air mechanical systems that meet the requirements of 29 CFR 1926.57 (Ventilation). Because the atmospheric hazard is controlled at safe levels but the hazard is still present to some degree, it is vital that the employer confirm that the ventilation system alone is maintaining the safe atmospheric-hazard level (with no other protective measure in use for protecting entrants from the atmospheric hazard).

Paragraph (a)(2)(ii). Employers would be required to determine that, in the event the ventilation system stops working, the monitoring procedures will detect an increase in atmospheric hazard levels in sufficient time for the entrants to safely exit the CACS. As explained for a similar provision in the general industry standard (see 29 CFR 1910.146(c)(5)(i)(B)), for the CACS to be considered safe, the mechanical ventilation must control the atmospheric hazards at levels that are sufficiently below the levels at which they are harmful to entrants so that, should the forced-air ventilation system cease to function during entry (such as from a power loss), the atmosphere will remain at safe levels until monitoring procedures detect rising atmospheric hazard levels and entrants can safely exit the space or ventilation is restored. The Agency believes that monitoring is the primary method for detecting an increase in atmospheric hazard levels and, therefore, requires the use of monitoring to detect ventilation system failure. However, other indicators may be useful in detecting such failures, including changes in noise levels, air flow, and/or pressure; and signs, symptoms, and characteristic effects of exposure to the atmospheric hazard.

In the event the atmospheric hazard-control methods fail, meeting the requirements of this proposed paragraph would provide employees with a safe atmosphere within the CACS until they evacuate the confined space, thereby reducing the risk of serious injury and death. By ensuring that employees evacuate safely from the CACS under these conditions, this proposed provision makes it unnecessary for employers to arrange for a rescue service as required for PRCSs under paragraph (e) of proposed § 1926.1209. Nevertheless, OSHA believes that if the atmospheric hazards rapidly rise to unsafe levels without mechanical ventilation, then mechanical ventilation may be an inappropriate method for controlling atmospheric hazards, and the space should be classified as a PRCS.

Paragraph (a)(3). Employers would be required to verify in writing that they isolated all physical hazards, and controlled atmospheric hazards with ventilation alone, in the CACS as required by paragraphs (a)(1) and (a)(2) of this proposed section; in addition, employers would have to make this documentation available to all employees who are entering the space, and to their authorized representatives. The provision specifies that the verification document must contain the: Location of the CACS, identity of the

physical hazards, methods for isolating the physical hazards, date and time the physical hazards were isolated and name and signature/initials of the individual who completed the isolation work, the identity and safe levels of the atmospheric hazards, methods for controlling the atmospheric hazards, atmospheric-testing results, date and time of atmospheric testing and the name and signature/initials of the individual who completed the atmospheric testing, the determinations made under paragraph (a)(2)(ii) of this proposed section, name and signature/initials of the person who completed this document, and date and time the document was completed.

The information on the verification document establishes a baseline to determine whether conditions specified in this document remain constant throughout subsequent entry operations. Also, making the document available to employees who enter the space and their authorized representatives would help ensure that the conditions established during initial CACS entry remain constant. It would do this by providing a readily available reference document for employees working in or near the CACS so they have the information necessary to detect developing hazards while they are engaged in CACS entry operations.

Paragraph (b). The provisions proposed under this paragraph list the requirements for notifying and warning employees of the locations of CACSs and their dangers, and training employees regarding CACS safety.

Paragraph (b)(1)(i). This proposed provision would require the employer to inform employees who the employer anticipates will be working in or near a CACS, and their authorized representatives, about the location of, and the dangers posed by, the CACS at the job site. In fulfilling this proposed requirement, the employer must first identify the employees it anticipates will be working in or near the CACS, including employees who: perform work in a CACS; deliver materials, supplies, and tools in or near a CACS; and may detect, and act to save, an incapacitated entrant during an emergency. Secondly, the employer must select an effective method to relay this information to the employees; these methods may range from tool-box talks to formal training. This proposed provision ensures that employees who may be in or near CACSs know the location of, and the dangers associated with, these spaces. This information would help prevent entry into a CACS by employees not authorized to do so, and would ensure that employees who perform work in CACSs can recognize these dangers and exit the CACS when the dangers materialize.

Paragraph (b)(1)(ii). Employers would be required to post danger signs near the outside of the entrance of the CACS that read, ''Danger—Controlled-Atmosphere Confined Space—Authorized Employees Only,'' or similar language. When the employer can demonstrate that a danger sign is infeasible, the employer must use an equally effective means of warning employees of the dangers. This proposed requirement would augment the employee protection afforded under paragraph (b)(1)(i) of this proposed section, especially by preventing non-authorized employees from entering a CACS.

Paragraph (b)(2). The requirements of this proposed paragraph define the training responsibilities of employers with regards to CACS entry.

Paragraph (b)(2)(i). Employers would be required to provide employees who enter a CACS with the knowledge and skills necessary to safely perform CACS entry operations. The training must ensure that these employees understand the hazards in the CACS that they will enter and the methods used to isolate or control these hazards. For employees who enter CACSs, this proposed paragraph would ensure that they know the characteristics of the hazards and the adverse effects the hazards have on the human body, and that they have the ability to recognize when the methods used to control or isolate identified hazards are not effective. OSHA believes that this training will aid the employees in understanding the importance of performing assigned tasks related to the maintenance of safe entry conditions and recognizing how hazards associated with the performance of construction activities affect conditions within the CACS. Without this information, employees are more likely to perform tasks that may compromise the safe conditions within the CACS and injure themselves or other employees. This proposed paragraph also provides the employees with information about the identified hazards which could indicate that an evacuation and reassessment is necessary to prevent injury to anyone in or around the CACS.

Paragraph (b)(2)(ii). Under this proposed provision, the employer is required to train the employees that the employer anticipates will be in or near the CACS and who are not authorized to perform entry rescues about the dangers of such rescues. For instance, when an employee works outside a CACS but is not trained to perform rescue operations, the employer must train that employee about the dangers associated with attempting such a rescue. OSHA believes that employees who are unaware of the dangers associated with attempting a rescue in a confined space are likely to suffer injury or death from trying to rescue an incapacitated employee in a CACS. Therefore, OSHA believes that it is imperative that these employees have knowledge of such dangers to prevent them from attempting rescues and being injured or killed as a result.

Paragraph (b)(2)(iii). The requirements of this proposed paragraph specify when an employer must provide employees with CACS-related training.

Paragraph (b)(2)(iii)(A). Employers would be required to train employees to perform their tasks safely before their initial entry into a CACS, thereby ensuring that these employees have the requisite knowledge and skills to safely perform entry operations within the CACS. OSHA believes that it is essential that employees understand their responsibilities regarding safe operations within the CACS, and that they be able to recognize the signs of ineffective isolation and control methods, before work within the space has commenced. Without this prior knowledge of how the performance of assigned tasks affects conditions within the CACS, an employee may endanger himself/herself or other employees who are in and around the CACS.

Paragraph (b)(2)(iii)(B). Under this proposed provision, if an employee the employer anticipates will be in or near a CACS receives a change in assigned tasks and these changes affect the control of hazardous atmospheres and/or the isolation of physical hazards (that is, the conditions necessary for a CACS classification), then the employer must train these employees on the newly assigned tasks before they enter the CACS, including how to maintain the conditions of the CACS classification when performing the tasks. For example, an employee's assignment changes so that he/she must maintain the proper functioning of ventilation equipment in the CACS or perform atmospheric monitoring; before reentering the space, the employee must be trained to perform such tasks and to understand their significance to safe CACS operations. This additional training only applies when employees have not received previous training on these newly assigned tasks. This proposed provision would ensure that employees have the knowledge and skills necessary to perform their newly assigned tasks safely within a CACS, thereby preventing errors that could result in substantial harm to themselves and/or other employees.

Paragraph (b)(2)(iii)(C). This proposed provision would require employers to ensure that employees exit a CACS when a hazard arises in the space for which they have received no previous training. Training on the new hazard must be completed before the employee may reenter and resume work in the CACS. For example, when a process or material introduced into the space discharges hazardous fumes or vapors into the atmosphere of the CACS, employees who have not had training on such hazards must exit the CACS and receive the requisite training even if the hazard levels are being controlled within safe limits by the mechanical ventilation. In another example, employers would have to follow the same procedure when a power line is exposed inadvertently within the space. OSHA believes this proposed paragraph would protect employees from injury or death by requiring the employer to remove them from the CACS until they have the requisite knowledge and skills regarding the hazard.

Paragraph (b)(2)(iv). Employers would be required to ensure that employees can demonstrate proficiency in the CACS-related duties required by this proposed standard, including any new and revised procedures. For example, the employer may wish to include a testing component in its training. OSHA believes this proposed requirement is necessary to ensure that the overall objectives of required training have been accomplished and the employee understands and is able to apply what he/she has learned.

Paragraph (b)(2)(v). The two provisions of this proposed paragraph list the information that employers must include on training records maintained in accordance with paragraph (c) of proposed § 1926.1219 below. OSHA believes that documentation of employee training is an essential administrative tool for ensuring that employees have received the requisite training. It is particularly important that an employer be able to verify training for employees working in a CACS because a heightened level of employee awareness is needed when an atmospheric hazard is being controlled rather than isolated. As discussed during the SBREFA process, the construction industry is characterized by high employee turnover rates and a tendency among employees to perform short-term tasks at multiple worksites. Therefore, without this documentation, it may be difficult for an employer to keep track of which employees have had the required training. This documentation would aid the employer in ensuring that no untrained employees are assigned to do work within a CACS, thereby preventing risk of injury and death to themselves and other employees. The dangers associated with untrained employees have been discussed in previous paragraphs of this proposed section.

Paragraph (b)(2)(v)(A). Employers would be required to ensure that the training records show that an employee accomplished the training specified in paragraph (b)(2) of this proposed section before entering a CACS. This information would allow employers to verify that an employee received the necessary training before the employee encounters CACS hazards.

Paragraph (b)(2)(v)(B). Employers would be required to include in the training records the employee's name, names of the trainers, and dates of the training. OSHA believes that this information is necessary to identify the specific training received by each employee so that employers select only employees with appropriate knowledge and skills to enter a CACS. Having the names of the trainers on the training record serves to corroborate the record, and also provides a reference should the employer have any questions about the training received by an employee. Including the date in the record allows an assessment of whether the employee may need updated or refresher training before entering the CACS. Finally, this documentation would assist employers in determining whether the training program in general meets the needs of the employees and results in safe and effective CACS entry operations.

Paragraph (c). The requirements of this proposed paragraph address general preparation for CACS entry.

Paragraph (c)(1). This proposed paragraph would require, prior to removing an entrance cover, that employers eliminate any condition that makes it unsafe to remove the entrance cover. The employer would be required to evaluate the hazards that may be associated with removing the cover, and then take whatever measures are necessary to ensure that these hazards are eliminated. For instance, if high-pressure exists inside the CACS, the employer would have to determine and implement measures to address that hazard so that the cover could be removed safely.

Paragraph (c)(2). The purpose of this proposed paragraph is to protect employees in and around the CACS from being struck by individuals or objects outside the CACS that may fall into the space, or that could injure the employees when they are near the CACS. When necessary to achieve this purpose, this proposed provision requires employers to promptly: Use guardrails or covers as specified in 29 CFR 1926.502 (Fall protection systems criteria and practices) of subpart M (Fall Protection) to guard holes and openings into the space from falling individuals and objects, and institute measures to control pedestrian and vehicle traffic in accordance with the requirements in 29 CFR Part 1926 subpart G (Signs, Signals, and Barricades).

Paragraph (c)(3). Employers would be required to ensure that a safe method of entering and exiting a CACS (such as stairways or ladders) is provided and used, and that it meets applicable OSHA requirements (such as 29 CFR Part 1926 subpart X (Stairways and Ladders)). For example, where the employees are working in an underground vault, the employer would be required to provide and ensure the use of a safe means of entry into and exit from an underground vault, and, if applicable, ensure that the method complies with OSHA standards.

The proposed paragraph also would require that if a hoisting system is used, it must be designed and manufactured for personnel hoisting. This proposed provision specifies an exception to this requirement that allows for the use of job-made hoisting systems if these systems are approved for personnel hoisting by a registered professional engineer prior to use in CACS entry operations. However, commercial hoisting systems not designed and manufactured specifically for personnel hoisting would not be permissible under this proposed provision because OSHA believes they cannot be used safely for this purpose. This proposed requirement would eliminate further injuries and deaths of employees which could occur from the use of a hoisting system that was not designed specifically for personnel hoisting. The provision would give the employer flexibility in its choice of personnel hoisting systems by allowing a registered professional engineer to approve a job-made system. OSHA believes that either option would ensure that the personnel hoisting system will meet the design specifications needed for employees to safely access the CACS.

This proposed provision would ensure that authorized entrants always have a safe and effective means of entering and exiting the space, including escaping from it in an emergency. These means include systems that are designed and manufactured for personnel hoisting and job-made hoisting systems approved by a registered professional engineer, even when these systems are not covered by an OSHA standard.

Paragraph (d). The requirements of this proposed paragraph would ensure that employers achieve conditions in a CACS before entry that are consistent with the determinations made, and the isolation and control methods implemented, during the classification of the space under paragraph (a) of this proposed section.

Paragraph (d)(1). The employer would be required to ensure that the physical hazards identified above under paragraph (b)(1)(ii) of proposed § 1926.1204 remain isolated as required by paragraph (a)(1) of proposed § 1926.1216 above. Because there may be a gap in time between when the employer isolates the hazard and when entry begins, the Agency believes that it is necessary to require that the employer ensure immediately before entry that the physical hazards remain isolated.

Paragraph (d)(2). Employers would be required to test for atmospheric hazards using the methods specified above in proposed § 1926.1205 (Atmospheric testing and monitoring) to ensure that the ventilation system is controlling the atmospheric hazards at safe levels. This requirement would ensure that, when the employees enter a CACS, the atmosphere is safe to breathe.

Paragraph (d)(3). The employer would be required to control the atmosphere at safe levels using only ventilation, and must provide ventilation using a forced-air mechanical system that complies with 29 CFR 1926.57 (Ventilation). OSHA believes that use of mechanical ventilation that meets the criteria of 29 CFR 1926.57 to control atmospheric hazards at safe levels is a reliable means of ensuring a safe atmosphere. The use of mechanical ventilation is necessary because of the inherent variability of natural ventilation.

Paragraph (d)(4). Employers would be required to verify in writing that the physical hazards are isolated and the ventilation system is properly controlling the atmospheric hazards. This written verification must contain: the location of the CACS, identity of the physical hazards, methods for isolating the physical hazards, date and time of determining that physical hazards remain isolated and the name and signature/initials of the individual who made this determination, identity and safe level of atmospheric hazards, methods for controlling the atmospheric hazards, atmospheric-testing results, date and time of atmospheric testing and the name and signature/initials of the individual who completed the atmospheric testing, name and signature/initials of the individual who completed this document, and the date and time the document was completed. Employers would be required to make this documentation available for review by each employee entering the space and to that employee's authorized representative. This document shall be maintained until the work in the CACS has been completed (see the proposed recordkeeping requirements under paragraph (d) of proposed § 1926.1219). These proposed procedures would ensure that: conditions in the CACS are safe for employee entry; the employer, employees, and OSHA can direct questions regarding the information to the individual who completed the document; and the information is available for assessment purposes (for example, to evaluate the effectiveness of the ventilation system).

The information required by this proposed paragraph duplicates much of the information required to classify a CACS as specified above in paragraph (a)(3) of this proposed section. However, the information required by this proposed paragraph addresses conditions in the CACS just prior to beginning entry operations. OSHA believes that documenting these conditions is necessary because employers would use this information to compare these conditions to the baseline conditions documented in proposed paragraph (a)(3), thereby alerting them to differences that may indicate poor hazard control or isolation. To lessen the paperwork burden of this proposed requirement, employers do not have to document CACS information that remains fixed, and only need to document information that is likely to vary from the information used to classify the CACS (see the sample verification document in proposed Appendix B). Therefore, employers do not need to document the location of the CACS, identity of the physical hazards, methods for isolating the physical hazards, identity and safe level of atmospheric hazards, and methods for controlling the atmospheric hazards, but must document the date and time of determining that physical hazards remain isolated and the name and signature/initials of the individual who made this determination, atmospheric-testing results, the date and time of atmospheric testing and the name and signature/initials of the individual who completed the atmospheric testing, the name and signature/initials of the individual who completed the verification document, and the date and time the document was completed.

Paragraph (e). The provisions of this proposed paragraph establish the minimum safety requirements that employers must follow after employees enter a CACS.

Paragraph (e)(1). This proposed provision would require the employer to ensure that physical hazards identified above under paragraph (b) of proposed § 1926.1204 remain isolated during entry. This proposed provision would provide employers and employees with assurance that the physical hazards, if any, within the CACS continue to be isolated.

Paragraph (e)(2). The employer would be required to monitor atmospheric hazards as specified in proposed § 1926.1205 (Atmospheric testing and monitoring) to ensure that forced-air mechanical ventilation alone effectively controls atmospheric hazards at safe levels. This proposed paragraph specifies that employers are to use continuous monitoring unless they can demonstrate that the equipment for continuously monitoring a hazard is not commercially available or periodic monitoring is sufficient. For example, when an employer demonstrates that atmospheric-testing results in the past for the CACS have consistently indicated that the change in atmospheric levels occurs slowly and predictably, periodic monitoring may be permissible. The Agency believes that this proposed requirement for continuous monitoring is necessary for the same reasons discussed with respect to paragraph (b) of proposed § 1926.1211 (Monitoring).

Paragraph (e)(3). The employer would be required to complete a written verification of the determinations made under paragraphs (e)(1) and (e)(2) of this proposed section. The employer would also be required to ensure that this written verification contains: The location of the CACS, identity of the physical hazards, methods for isolating the physical hazards, date and time of determining that physical hazards remain isolated and the name and signature/initials of the individual who made this determination, identity and safe level of atmospheric hazards, methods for controlling the atmospheric hazards, atmospheric-monitoring results, date and time of atmospheric monitoring and the name and signature/initials of the individual who completed the atmospheric monitoring, name and signature/initials of the individual who completed this document, and the date and time the document was completed. Lastly, the employer must make the document available to each employee entering the space and to the employee's authorized representative.

The information in this verification document would serve as a reference to help employees recognize developing

hazards (for example, increases in atmospheric hazards) during entry operations, so that entrants would know to exit the CACS. Also, after completing an entry operation, employers could use the information to evaluate the effectiveness of methods used to isolate physical hazards and control atmospheric hazards, or to determine the cause of an accident; in either case, the information would assist the employer in identifying the necessary corrective action. Making the documentation available to employees and their authorized representatives would help ensure that employees have the reference information necessary to recognize when hazards are developing while engaged in entry operations.

To lessen the paperwork burden of this proposed requirement, employers do not have to document CACS information that remains fixed, and only need to document information that is likely to vary from the information used to classify the CACS (see the sample verification document in proposed Appendix B). Therefore, employers do not need to document the location of the CACS, identity of the physical hazards, methods for isolating the physical hazards, identity and safe level of atmospheric hazards, and methods for controlling the atmospheric hazards, but must document the date and time of determining that physical hazards remain isolated and the name and signature/initials of the individual who made this determination, the results of atmospheric monitoring, the date and time of atmospheric monitoring and the name and signature/initials of the individual who completed the atmospheric monitoring, the name and signature/initials of the individual who completed the verification document, and the date and time the document was completed.

Paragraph (f). This proposed paragraph specifies requirements employers must follow when an emergency occurs during entry operations, including the presence of a non-isolated physical hazard or an atmospheric hazard at unsafe levels.

Paragraph (f)(1). Under this proposed provision, when an emergency requires evacuation from a CACS, employers would be required to ensure that employees exit the space immediately. The Agency believes this proposed requirement is necessary because once an emergency occurs, the protective systems in place in the CACS can no longer be relied on to protect the entrants; their safety then depends on their immediately getting out of the CACS.

Paragraph (f)(2). This proposed paragraph requires employers to identify the physical and atmospheric hazards in accordance with paragraph (b) of proposed § 1926.1204. Under paragraph (b)(2) of proposed § 1926.1204, employers must reclassify the space as a PRCS when it is necessary for the entrant to enter the space to obtain the required information. The Agency believes that this proposed requirement is necessary to ensure that the spaces are correctly assessed, and to ensure that the employees are protected while conducting the assessments.

Paragraph (f)(3). This proposed provision requires an employer to use the information about the confined space that it obtained above under paragraph (f)(2) of this proposed section, and reclassify the evacuated space as either a CS–PRCS, PRCS, CACS, or IHCS. The employer must then follow the precautions and safety procedures listed for the space classification in the applicable sections of this proposed standard. The employees cannot reenter the space to perform their assigned tasks until the employer determines that the conditions within the confined space meet the classification and prevention/protection requirements specified for the space. This requirement would ensure that employees receive appropriate protection prior to reentering the confined space.

Section 1926.1217—Isolated-Hazard Confined Spaces—Requirements for Classification and Accident Prevention and Protection

Paragraph (a). The provisions of this proposed paragraph specify the requirements for classifying a confined space as an Isolated-Hazard Confined Space (IHCS). When an employer isolates or eliminates all atmospheric and physical hazards in a space, the space would qualify for the IHCS classification. Employers applying that classification would be required to comply with these proposed provisions before an employee enters the space. The Agency believes that, in some instances, employers will meet IHCS classification requirements instead of classifying a space as a PRCS or CACS; the IHCS classification will sometimes be more efficient and less costly to implement than the PRCS or CACS requirements.

Paragraph (a)(1). The employer would be required to isolate each physical hazard in the space identified under paragraph (b) of proposed § 1926.1204. The definition of the terms ''isolate'' or ''isolation'' provided in paragraph (b) of proposed § 1926.1203 (Definitions applicable to this subpart) is ''the elimination or removal of a physical or atmospheric hazard by preventing its release into a confined space. Isolation includes, but is not limited to, the following methods: Blanking and blinding; misaligning or removing sections of lines, pipes, or ducts; a double-block-and bleed system; locking out or tagging out energy sources; machine guarding; and blocking or disconnecting all mechanical linkages.'' In some situations, employers may perform isolation by de-energizing machinery or systems using appropriate lockout-tagout procedures (for example, 29 CFR 1926.417 (Lockout and tagging of circuits)).

While the proposed provision would allow employers flexibility in the methods and procedures they use to identify and isolate physical hazards, it would not relieve them from conducting a thorough assessment of the space and identifying hazards that include, but are not limited to: Existing or potential liquids, solid materials, and electricity associated with processes; the use of equipment, ductwork, and conduits with exposed valves or that terminate in the confined space; exposed and energized electrical conduits; connected rooms and reservoirs that present engulfment hazards; and any other recognized hazards covered by OSHA construction standards. OSHA believes that isolating all the physical hazards within the space protects employees while working in the IHCS.

Paragraph (a)(2). This proposed provision would require employers to isolate the atmospheric hazards identified in the space as specified in paragraph (b) of proposed § 1926.1204. In doing so, the employer must make a determination regarding atmospheric hazards, and adopt an appropriate method of isolating these hazards that would prevent their release into the confined space. Properly identifying and implementing an isolation method increases the likelihood that employees will be safe while working within the IHCS because all atmospheric hazards will have been isolated or eliminated.

Paragraph (a)(3). The employer would be required to isolate the atmospheric and physical hazards without entering the space. However, when the employer demonstrates that it is infeasible to isolate the hazards without entering the space, it may only enter the space if it complies with the requirements for PRCSs in proposed §§ 1926.1208 through 1926.1214 or, when applicable, the requirements for CS–PRCSs in proposed § 1926.1215. Even when the employer is able to isolate some of the hazards without entering the space, the space would remain a PRCS until the

employer isolates every physical and atmospheric hazard in the space. By maintaining the PRCS classification for these spaces until the employer completes hazard isolation, this proposed provision would protect employees from any atmospheric and/or physical hazards during the isolation process.

Paragraph (a)(4). Employers would be required to verify in writing that all of the physical and atmospheric hazards in the space have been isolated as required by paragraphs (a)(1) and (a)(2) of this proposed section, and to make this documentation available to each employee who is entering the space, and to their authorized representatives. The proposal specifies that the verification document must contain the: Location of the IHCS, identity of the physical hazards, methods for isolating the physical hazards, date and time the physical hazards were isolated and name and signature/initials of the individual who completed the isolation work, the identity of atmospheric hazards, methods for isolating the atmospheric hazards, the date and time the atmospheric hazards were isolated and the name and signature/initials of the individual who completed the isolation work, name and signature/initials of the individual who completed this document, and the date and time the document was completed.

OSHA believes the information on the verification document would ensure that employers confirm the effectiveness of protective measures implemented prior to IHCS entry. This proposed provision is necessary as an administrative tool to ensure that employees are protected from physical or atmospheric hazards upon initial entry into an IHCS, and that the space remains safe during entry operations. The testing results would also serve as a baseline against which employers and employees could compare current conditions within the IHCS during entry operations. The proposed requirement to make the documentation available to employees and their authorized representatives would ensure that entrants have the information necessary to detect developing hazards while they are working in the space. OSHA believes that when employers and employees have access to these verification documents, deficiencies in isolation methods can be readily identified, which would reduce the probability that employees will be injured by hazards within the IHCS.

Paragraph (b). The provisions of this proposed paragraph list the minimum IHCS training requirements. The employer would be required to ensure that employees performing this work meet these proposed training requirements before they enter an IHCS, thereby expediting recognition of hazardous conditions and development of appropriate responses.

A note to this proposed paragraph states that employers do not need to document the IHCS training requirements, unlike the training provisions proposed for PRCSs, CS–PRCSs, and CACSs, which do require documentation. However, in contrast to PRCSs, CS–PRCSs, and CACSs, IHCSs contain no hazards or contain isolated hazards. The Agency believes that IHCS conditions afford employees optimum protection because the likelihood of employee exposure to a hazard during entry operations is extremely low. In addition, the training requirements proposed for IHCSs, which are informational only, are similar to the training provisions currently specified for confined and enclosed spaces by 29 CFR 1926.21(b)(6), which does not require training documentation. OSHA concludes that requiring employers to document this minimal training requirement would discourage them from classifying confined spaces as IHCSs, thereby denying employees the safety and health benefits associated with this classification.

Paragraph (b)(1). Employers would be required to ensure that employees who enter IHCSs acquire the knowledge and skills necessary to recognize the signs, symptoms, and characteristic effects associated with exposure to the hazards identified under paragraphs (a)(1) and (a)(2) of this proposed section, and to understand the methods used to isolate these hazards. OSHA believes that this training is necessary to prevent accidents caused by an employee's inexperience with working in an IHCS. This training would allow employees to detect failures in the methods used to isolate IHCS hazards, and to recognize the physical and behavioral effects that result from these failures.

Paragraph (b)(2). Employers would be required to train employees the employer anticipates will be in or near the IHCS, and who are not authorized to perform entry rescues, about the dangers of attempting such rescues. This requirement would deter untrained employees from attempting entry rescues, thereby preventing them from being incapacitated, injured, or killed from the hazards in the space.

Paragraph (c). The requirements of this proposed paragraph address general preparation for IHCS entry.

Paragraph (c)(1). This proposed paragraph would require, prior to removing an entrance cover, that employers eliminate any condition that makes it unsafe to remove the entrance cover. The employer would be required to evaluate the hazards that may be associated with removing the cover, and then take whatever measures are necessary to ensure that these hazards are eliminated. For instance, if high-pressure exists inside the IHCS, the employer would have to determine and implement measures to address that hazard so that the cover could be removed safely.

Paragraph (c)(2). The purpose of this proposed paragraph is to protect employees in and around the IHCS from being struck by individuals or objects outside the IHCS that may fall into the space, or that could injure the employees when they are near the IHCS. When necessary to achieve this purpose, this proposed provision requires employers to promptly: Use guardrails or covers as specified in 29 CFR 1926.502 (Fall protection systems criteria and practices) of subpart M (Fall Protection) to guard holes and openings into the space from falling individuals and objects, and institute measures to control pedestrian and vehicle traffic in accordance with the requirements in 29 CFR Part 1926 subpart G (Signs, Signals, and Barricades).

Paragraph (c)(3). Employers would be required to ensure that a safe method of entering and exiting an IHCS (such as stairways or ladders) is provided and used, and that it meets applicable OSHA requirements (such as 29 CFR Part 1926 subpart X (Stairways and Ladders)). For example, where the employees are working in an underground vault, the employer would be required to provide and ensure the use of a safe means of entry into and exit from an underground vault, and, if applicable, ensure that the method complies with OSHA standards.

The proposed paragraph also would require that if a hoisting system is used, it must be designed and manufactured for personnel hoisting. This proposed provision specifies an exception to this requirement that allows for the use of job-made hoisting systems if these systems are approved for personnel hoisting by a registered professional engineer prior to use in IHCS entry operations. However, commercial hoisting systems not designed and manufactured specifically for personnel hoisting would not be permissible under this proposed provision because OSHA believes they cannot be used safely for this purpose. This proposed requirement would eliminate further injuries and deaths of employees which could occur from the use of a hoisting system that was not designed specifically for personnel hoisting. The

provision would give the employer flexibility in its choice of personnel hoisting systems by allowing a registered professional engineer to approve a job-made system. OSHA believes that either option would ensure that the personnel hoisting system will meet the design specifications needed for employees to safely access the IHCS.

This proposed provision would ensure that employees always have a safe and effective means of entering and exiting the space, including escaping from it in an emergency. These means include systems that are designed and manufactured for personnel hoisting and job-made hoisting systems approved by a registered professional engineer, even when these systems are not covered by an OSHA standard.

Paragraph (d). The three provisions of this proposed paragraph address the requirements that employers would be required to follow prior to having employees enter an IHCS.

Paragraph (d)(1). Employers would be required to ensure that the physical hazards identified in paragraph (a)(1) of this proposed section remain isolated. This proposed requirement would ensure that employees are safe from exposure to physical hazards after entering an IHCS.

Paragraph (d)(2). Employers would be required to confirm, through testing, that the atmospheric hazards identified in paragraph (a)(2) of this proposed section are isolated. In conducting this testing, employers must comply with the requirements of paragraph (a) of proposed § 1926.1205. This proposed provision would protect employees from atmospheric hazards during initial entry into an IHCS.

Paragraph (d)(3). Employers would be required to verify in writing the determinations made and the actions taken under paragraphs (d)(1) and (d)(2) of this proposed section. The information provided in this documentation must include the: Location of the IHCS, identity of the physical hazards, methods for isolating the physical hazards, date and time the physical hazards were isolated, date and time of determining that physical hazards remain isolated and the name and signature/initials of the individual who made this determination, identity of the atmospheric hazards, methods for isolating the atmospheric hazards, date and time the atmospheric hazards were isolated, date and time of determining that atmospheric hazards remain isolated and the name and signature/initials of the individual who made this determination, name and signature/initials of the individual who completed this document, and date and time the document was completed. In addition, the document shall be made available by posting or other methods to employees entering the IHCS and to the employee's authorized representative.

This proposed requirement would provide assurance that the IHCS is safe to enter, as well as information that could be used to detect a developing hazard (for example, indication of an atmospheric contaminant during subsequent entry operations). Therefore, this information would provide employees with protection against physical or atmospheric hazards while entering an IHCS. Other employers, including subcontractors, may benefit from this information since it would be relevant to (though not a substitute for) their own hazard assessment of the space.

This information nearly duplicates the information specified above in paragraph (a)(4) of this proposed section. To lessen the paperwork burden of this proposed requirement, employers do not have to document IHCS information that remains fixed, and only need to document information that is likely to vary from the information used to classify the IHCS (see the sample verification document in proposed Appendix B). Therefore, employers do not need to document the location of the IHCS, identity of the physical hazards, methods for isolating the physical hazards, date and time the physical hazards were isolated, identity of atmospheric hazards, methods for isolating the atmospheric hazards, and date and time the atmospheric hazards were isolated, but must document the date and time of determining that physical hazards remain isolated and the name and signature/initials of the individual who made this determination, the date and time of determining that atmospheric hazards remain isolated and the name and signature/initials of the individual who made this determination, name and signature/initials of the individual who completed the verification document and the date and time the document was completed.

Paragraph (e). This proposed paragraph contains two provisions regarding IHCSs during entry operations. Employers would be prohibited from having employees continue to engage in entry operations unless these proposed provisions are met.

Paragraph (e)(1). Employers would be required to ensure that the physical and atmospheric hazards identified in paragraphs (a)(1) and (a)(2) of this proposed section remain isolated during entry operations. For example, following the requirements of paragraph (a) of proposed § 1926.1205 would allow an employer to determine the effectiveness of methods used to isolate atmospheric contaminants; for some physical hazards, employers may perform periodic inspections of blocking, blanking, and lockout-tagout methods to ensure their continuing effectiveness. By requiring employers to ensure that physical and atmospheric hazards remain isolated, this proposed provision would prevent physical and atmospheric hazards from entering an IHCS occupied by employees.

Paragraph (e)(2). This proposed paragraph specifies requirements employers must follow when an emergency occurs during entry operations, including the presence of a non-isolated physical hazard or an atmospheric hazard.

Paragraph (e)(2)(i). Under this proposed provision, when an emergency requires evacuation from an IHCS, employers would be required to ensure that employees exit the space immediately. The Agency believes this proposed requirement is necessary because once an emergency occurs, the protective systems in place in the IHCS can no longer be relied on to protect the entrants; their safety then depends on their immediately getting out of the IHCS. This provision would ensure that employees minimize their exposure to physical or atmospheric hazards.

Note that this proposed provision does not require employers engaged in IHCS operations to have a rescue service available during emergencies. OSHA believes that, unlike PRCSs and CS–PRCSs, IHCSs contain no hazards or contain isolated hazards. The Agency believes that IHCS conditions afford employees optimum protection because the likelihood of employee exposure to a hazard during entry operations is extremely low. OSHA believes that requiring employers to have entry rescue services available during IHCSs entry operations would discourage them from classifying confined spaces as IHCSs, thereby denying employees the safety and health benefits associated with this classification. Nevertheless, employers must be able to rescue employees during IHCS operations when required to do so by other OSHA standards. For instance, if employers use fall-arrest systems in IHCSs, then 29 CFR 1926.502(d)(20) requires that they promptly rescue employees who experience an arrested fall, or assure that the employees are able to rescue themselves.

Paragraph (e)(2)(ii). This proposed paragraph requires employers to identify the physical and atmospheric

hazards in accordance with paragraph (b) of proposed § 1926.1204. Under paragraph (b)(2) of proposed § 1926.1204, employers must reclassify the space as a PRCS when it is necessary for the entrant to enter the space to obtain the required information. When doing so, employers must comply with the accident-prevention and protection requirements specified for PRCSs by proposed §§ 1926.1208 through 1926.1214 (and, if applicable, proposed § 1926.1215 for CS–PRCSs). The Agency believes that this proposed requirement is necessary to ensure that the spaces are correctly assessed and to ensure that the employees are protected while conducting the assessments.

Paragraph (e)(2)(iii). This proposed provision requires an employer to use the information about the confined space that it obtained under paragraph (e)(2)(ii) of this proposed section, and reclassify the evacuated space as either a CS–PRCS, PRCS, CACS, or IHCS. The employer must then follow the precautions and safety procedures listed for the space classification in the applicable sections of this proposed standard. The employees cannot reenter the space to perform their assigned tasks until the employer determines that the conditions within the confined space meet the classification and prevention/protection requirements specified for the space. This requirement would ensure that employees receive appropriate protection prior to reentering the confined space.

Section 1926.1218—Equipment

Paragraph (a). The provisions of this proposed paragraph specify the equipment employers would have to provide for confined-space operations. These proposed provisions also require employers to properly maintain, calibrate, and use the equipment required by this proposed standard.

Paragraph (a)(1). The employer would be required to provide and ensure the use of the atmospheric-testing and -monitoring equipment needed to comply with this proposed standard. OSHA believes that this equipment is essential for protecting employees from atmospheric hazards.

Paragraph (a)(2). The employer would be required to provide forced-air mechanical ventilation equipment when needed to meet the requirements of this proposed standard. For example, the employer would be required to provide such equipment if it is needed to meet the requirements of paragraphs (a)(2) and (d)(3) of proposed § 1926.1216 (for control of atmospheric hazards such as dusts, fumes, mists, vapors, or gases). Forced-air mechanical-ventilation equipment, when used appropriately under proposed § 1926.1216 (Controlled-atmosphere confined spaces—requirements for classification and accident prevention and protection), would protect employees from the atmospheric hazards. The employer would also be required to provide it where it is used to help establish planned conditions for entry operations under proposed §§ 1926.1208 through 1926.1214 (PRCSs) or proposed § 1926.1215 (CS–PRCSs). In those instances, use of the equipment would be a significant factor in protecting the employees.

Paragraph (a)(3). The employer would be required to provide personal protective equipment (PPE), including respirators, when needed to comply with this proposed standard. When employees use respirators, the respirator requirements in 29 CFR 1926.103 (Respiratory protection) must be met.[4] For example, failure to use the appropriate filters in a respirator can render its use ineffective, and would be a violation of 29 CFR 1926.103. OSHA believes that when the appropriate PPE is provided, maintained, and used in accordance with OSHA standards that address the identified hazard, the employees will be protected from serious injury or death. (Note: The issue of employer payment for PPE is the subject of a separate rulemaking (see 64 FR 15402). The Agency has indicated that it will complete that rulemaking in the near future.)

Paragraph (a)(4). The employer would be required to provide any equipment not already mentioned that is necessary for safe confined-space operations. OSHA believes this proposed requirement would ensure that the appropriate equipment is available at the job site so employees receive adequate protection from hazards present during confined-space operations. Accordingly, the employer would have to identify this additional equipment after conducting an assessment of the confined space as required by the applicable sections of this proposed standard, and then provide and ensure the use of it.

Paragraph (b). This proposed paragraph specifies requirements for equipment, including maintenance, calibration, and use, needed to comply with this standard. OSHA believes the use of improperly maintained or calibrated equipment could severely compromise the testing and monitoring of conditions within the space and result in employee injury or death. For example, if a gas monitor is not properly calibrated, it may fail to indicate a dangerous hazard level, leading employees to incorrectly believe that it is safe to enter the space.

Under this proposed provision, employers also must ensure that employees use equipment properly to meet the requirements of this proposed standard. For instance, the cords of electrical equipment must not be used to suspend or lower other equipment into a confined space, or the exhaust from powered equipment shall not be used to provide heat for employees inside a confined space. Meeting the requirements of this provision would ensure that employees would not be injured or killed due to the unsafe use of equipment while performing work in and around confined spaces.

Paragraph (b)(1). Under proposed paragraph (b)(1), the employer would be required to ensure that equipment used to meet requirements of this standard complies with other applicable OSHA requirements with regard to maintenance, calibration, and use. Accordingly, the employer must adhere to other OSHA standards that provide criteria for equipment such that the equipment will not injure or kill employees who must use it. For example, ventilation systems and any fall protection used must meet the requirements of appropriate OSHA standards.

Paragraph (b)(2). This proposed provision would provide employers with alternatives in case no applicable OSHA standard is available to regulate the maintenance, calibration, and use of equipment required by this proposed standard.

Paragraph (b)(2)(i). This proposed provision would require employers to use manufacturers' instructions as the principal alternative when an OSHA standard is not available. Equipment manufacturers are most familiar with the components, configuration, and safe and healthful operation of their equipment; this information places them in the best position to specify the proper maintenance, calibration, and use of this equipment when an appropriate OSHA standard is not available.

Paragraph (b)(2)(ii). If neither an OSHA standard nor manufacturers' instructions are available to maintain, calibrate, and use equipment, this proposed provision would require employers to follow the recommendations of a qualified individual. As required by 29 CFR 1926.32(m), a properly qualified individual would possess the

[4] 29 CFR 1926.103 cross-references OSHA's Respiratory Protection Standard at 29 CFR 1910.134.

recognized training, education, professional standing, experience and/or demonstrated ability necessary to make decisions that will ensure the proper maintenance, calibration, and use of equipment used in confined spaces. In making these recommendations, a qualified individual may refer to other available sources such as national standards and industry-recognized safe work practices. The Agency believes that the recommendations of a qualified individual, in absence of applicable OSHA standards and manufacturers' instructions, would assure that equipment required by this proposed standard functions as it is designed to do, thereby providing safe working conditions for employees in confined spaces.

Section 1926.1219—Records

Paragraph (a). This proposed provision would require that the employer either maintain a copy of this standard at the job sites where there is a confined space or maintain a copy of a written confined-space program at the sites that incorporates the standard's requirements. This proposed standard was drafted and organized to direct employers through the steps necessary to protect their employees from confined-space hazards, especially employers who are unfamiliar with confined-space work and may not initially recognize the potential dangers of working within a confined space.

OSHA believes that when an employer has a copy of the construction confined-spaces standard at the job site, along with the documentation required for each section, there is no need to also have a written program. However, if an employer instead prefers to maintain a copy of a written confined-space program at the job site, the proposed provision gives such employers that option so long as that program incorporates the requirements of the proposed standard applicable to the employer's work at the site. For example, if an employer works within chemical tanks that are not CS–PRCSs, and prefers to treat them as PRCSs (rather than meeting CACS or IHCS requirements), such an employer may opt to maintain a written program at that site that addresses the requirements for PRCSs but does not address CACS and IHCS requirements. Whichever option the employer chooses, the Agency believes that it is necessary for a written copy of this standard or the written confined-space program be available at the site as a reference for employees who are involved with implementing safe entry procedures.

Paragraph (b). The employer would be required to retain for at least one year entry permits for all PRCS work performed by their employees. The one-year time period would begin on cancellation of the entry permit for any reason (for example, evacuation of the space or completion of the work specified by the permit). Employers that perform PRCS work must retain entry permits to conduct the required 12-month review specified by paragraph (b)(1) of proposed § 1926.1214.

The note to this paragraph states that, when an entry permit meets the definition of an ''employee exposure record'' as defined by 29 CFR 1910.1020(c)(5), employers must retain the applicable entry permits for the period specified in 29 CFR 1910.1020(d) (Preservation of records). (The provisions of 29 CFR 1910.1020 (Access to employee exposure and medical records) are made applicable to construction operations by 29 CFR 1926.33.) OSHA believes that requiring employers to maintain these exposure records will give healthcare providers, in the event of an emergency, access to information about the substances and exposure levels the employee may have experienced while working within a confined space. This information is needed to enable medical care to be effectively administered to injured employees.

Paragraph (c). Employers would be required to maintain training records in accordance with proposed §§ 1926.1209(d)(5) (PRCSs) and 1926.1216(b)(2)(v) (CACSs). OSHA believes that employee training records are an important administrative tool for tracking which employees have received required training. Accordingly, these training records need only be maintained during the time in which the employee continues to be employed by his/her employer. Requiring employers to maintain employee training records for a longer period is especially burdensome to construction employers because of the high employee turnover rates they typically experience.

This proposed paragraph requires employers to maintain employee training documents only for employees who work in PRCSs and CACSs, not for employees who work in IHCSs. The proposed paragraph did not include training records for employees who work in IHCSs because, unlike PRCSs and CACSs in which hazards are still present during confined-space operations, IHCSs either contain no hazards or employers isolate any hazards that are identified. Therefore, employees who perform work in an IHCS are not exposed to any physical or atmospheric hazards related to conditions within the IHCS, and OSHA believes that requiring construction employers to maintain employee training records when they are not required by other OSHA standards would subject them to an unnecessary burden.

Paragraph (d). This paragraph would require documents mandated in paragraphs (a)(3), (d)(4), and (e)(3) of proposed § 1926.1216 (CACSs) and paragraphs (a)(4) and (c)(3) of proposed § 1926.1217 (IHCSs) to be maintained by the employer until the work in the confined space is completed. OSHA believes these documents are important administrative tools for employers who perform work in these types of confined spaces. Employees who work within or around these types of confined spaces will be able to better recognize deficiencies in isolation and control methods, or changes in the conditions within the confined space, when they can reference these documents.

The Agency recognizes, however, that confined spaces that are classified as CACSs or IHCSs typically involve more predictable and less complex hazard-protection scenarios than those usually associated with CS–PRCSs and PRCSs. Therefore, unlike PRCS entry permits, the Agency believes that it is not necessary for employers to maintain the CACS and IHCS verification documents for review and evaluation after the work is completed. Similar to the note to paragraph (b) of this proposed section, the note in this proposed paragraph requires that these documents be maintained for longer periods if they constitute exposure records under 29 CFR 1910.1020 (Access to employee exposure and medical records).

Paragraph (e). Employers would be required to make all documents required to be retained under this proposed standard available to the Secretary of Labor upon request. The request from the Secretary or the Secretary's designee (for example, OSHA) may be either oral or written. Unless another provision of this proposed standard requires a document to be maintained at the worksite, these documents may be kept off site as long as they can be readily produced by the employer. These documents pertain to the determinations made and actions taken regarding hazards. They provide valuable information to those inspecting the worksite in determining whether elements of this proposed standard have been met.

IV. Issues for Comment

OSHA requests comments from the public on any issues related to this

proposed standard. However, OSHA is specifically requesting the public to comment on, and provide additional information regarding, the issues listed below. Please provide a detailed rationale for each response made to these issues.

1. *Comparison to subpart P.* In a recent regulatory review of 29 CFR part 1926 subpart P (Excavations), a commenter stated that the Agency should clarify that trenches are not confined spaces, while another commenter recommended that, for ease of use, OSHA combine the excavation standards in subpart P and this proposed standard for confined spaces into a single standard (Ex. 2–7, OSHA Docket No. S–204A). In addition, another commenter noted that 29 CFR 1926.651(g)(1)(iii) of subpart P states that the lower flammable limit (LFL) is 20 percent for an atmosphere containing a flammable gas, while the definition of ''hazardous atmosphere'' in paragraph (b) of the general industry confined-spaces standard specifies an LFL of 10 percent for a flammable gas, vapor, or mist (Ex. 2–4, OSHA Docket No. S–204A). This proposed standard for confined spaces in construction adopts an LFL of 10 percent in its definition of ''hazardous atmosphere,'' which is the same LFL as in the general industry standard and in the ANSI Z117.1–2003 industry consensus confined-spaces standard. The commenter requested that OSHA make these LFL requirements similar.

In section III (''Summary and Explanation of the Proposed Standard'') of this proposal, the Agency notes that paragraph (b) of proposed § 1926.1202 clearly states that excavations covered by subpart P are not confined spaces covered by this proposed standard. OSHA believes that subpart P provides sufficient protection from confined-space hazards during excavation work. However, the Agency would be interested in comments on this proposed exception, as well as on the recommendation to combine the excavation standard and this proposed standard into a single standard. Additionally, OSHA requests comment on the advisability of reconciling the difference in LFLs between the excavation standard in subpart P and this proposed standard, including which LFL (that is, 10 percent or 20 percent) should be adopted.

2. Equipment necessary for a single attendant to monitor multiple PRCSs. Paragraph (f)(3)(ii) of proposed § 1926.1210 requires employers to provide the equipment needed by an attendant to respond to an emergency affecting any of the PRCSs the attendant is monitoring. In the preamble discussion of this proposed provision, OSHA states that this equipment may include electronic equipment, such as electronic audio and video tools, and that it is unrealistic to expect a single attendant to monitor multiple PRCSs and to accomplish the other tasks assigned to him/her in paragraph (f) of proposed § 1926.1211 without the assistance provided by this electronic equipment. OSHA is requesting public comment on what means (other than electronic equipment) are available that employers could use that would allow an attendant to effectively monitor multiple PRCSs and to accomplish other assigned tasks, while simultaneously providing employees with the same level of protection they would receive when an attendant monitors only a single PRCS.

3. *Mechanical device for vertical retrieval during rescue.* Paragraph (a)(3) of proposed § 1926.1213 would require that employers use a mechanical device for retrieving employees from a PRCS when such retrieval involves vertical distances over five feet (1.52 m). In the preamble discussion of this proposed paragraph, OSHA noted that securing the retrieval line to an anchor point or using a simple pulley for this purpose could endanger the authorized entrant because most attendants do not have sufficient strength and stamina to lift a disabled entrant over a vertical distance of more than five feet. However, the Agency also noted in this discussion that it recognizes that using the required mechanical devices may present problems to employers because some PRCSs may lack room to position the equipment above the entry point, or employers may need to keep the entry clear for the attendant to observe the authorized entrants while they are working. Therefore, OSHA is requesting commenters to provide information on other alternatives (other than using anchor points and/or simple pulleys) that employers could use for this purpose that would not occlude the PRCS entrance, or would be less obtrusive than the mechanical devices required by this proposed provision.

4. *Timely response to a rescue summons.* Paragraph (b)(1)(i) of proposed § 1926.1213 specifies that the employer must ensure that the rescue service can respond to a rescue summons in a timely manner, and defines the term ''timeliness'' as a function of how quickly a rescue service needs to reach an employee to prevent further serious physical harm that may result from hazards in the PRCS while waiting to be rescued. OSHA is soliciting comments on this definition, especially whether it is adequate as proposed, should remain performance based as proposed but revised in some fashion, or should specify an exact time for the rescue service to respond to the summons (for example, three minutes).

5. *Maintaining CACS and IHCS verification documents.* The requirements of paragraph (d) of proposed § 1926.1219 (Records) states that employers need only maintain CACS and IHCS verification documents until they complete the work in the confined space. In justifying this requirement, OSHA notes that CACSs or IHCSs typically involve more predictable and less complex hazard-protection conditions than PRCSs; consequently, the need to review and evaluate CACS and IHCS verification documents is less than for PRCS entry permits, which employers must maintain for at least one year to evaluate the safety and efficacy of entry operations. Therefore, the Agency believes that it is not necessary for employers to maintain the CACS and IHCS verification documents for review and evaluation after the work is completed. OSHA is seeking comment on whether CACS and IHCS entry operations warrant maintaining the verification documents for a longer period than specified by this proposed provision. If so, the Agency is requesting commenters to identify these conditions and recommend how long the period should be.

6. *Rescue Service Preparation and Changes in Confined-Space Configuration.* The requirements of proposed § 1926.1213(b)(1) states that employers ''must ensure that the entry rescue service can effectively perform entry-rescue tasks in the PRCSs the authorized entrant(s) will enter.'' In addition, proposed § 1926.1213(b)(1)(ii) requires employers to ensure that the entry rescue-service: ''Prior to beginning operations, has access to the PRCS the authorized entrants will enter or to a Simulated PRCS so the entry rescue service can develop appropriate rescue plans and practice rescue operations.'' OSHA estimates that the majority of construction employers who perform work within confined spaces will rely upon public-sector emergency services to perform rescue services. Accordingly, the Agency is seeking comments from the public regarding any difficulties employers have experienced with public-sector emergency services being unable to perform entry rescues in confined spaces that rapidly change in configuration during the construction process. For example, have instances occurred when public-sector emergency services were unable to perform entry

rescues because the configuration of a space changed during the performance of construction activities, and the size and type of the rescue service's equipment was unsuitable for the reconfigured space? Is it feasible for employers to plan for changes in the configuration of confined spaces, and to communicate this information to public-sector emergency services so that the rescue services can properly train and equip themselves to perform entry rescues in the changing spaces?

V. Procedural Determinations

A. Legal Authority

The purpose of the Occupational Safety and Health Act of 1970, (''the Act''; 29 U.S.C. 651 *et seq.*), is ''to assure so far as possible every working man and woman in the nation safe and healthful working conditions and to preserve our human resources.'' (29 U.S.C. 651(b).) To achieve this purpose, Congress authorized the Secretary of Labor to promulgate and enforce occupational safety and health standards. (29 U.S.C. 655(b) and 658.)

Under the Act, a safety or health standard is a standard ''which requires conditions, or the adoption or use of one or more practices, means, methods, operations, or processes, reasonably necessary or appropriate to provide safe or healthful employment or places of employment.'' (29 U.S.C. 652(8).) A standard is reasonably necessary or appropriate within the meaning of Section 652(8) when it substantially reduces or eliminates significant risk, and is technologically and economically feasible, cost effective, consistent with prior Agency action or supported by a reasoned justification for departing from prior Agency action, and supported by substantial evidence; it also must effectuate the Act's purposes better than any national consensus standard it supersedes (see *International Union, UAW* v. *OSHA (LOTO II)*, 37 F.3d 665 (DC Cir. 1994; and 58 FR 16612–16616 (March 30, 1993)). Rules promulgated by the Agency must be highly protective (see 58 FR 16612, 16614–15 (March 30, 1993); *LOTO II*, 37 F.3d 665, 669 (DC Cir. 1994)). Moreover, Section 8(g)(2) of the Act authorizes OSHA ''to prescribe such rules and regulations as [it] may deem necessary to carry out its responsibilities under the Act'' (see 29 U.S.C. 657(g)(2)).

OSHA based the proposed rule on evidence that its provisions are necessary to ensure proper employee protection when they are exposed to confined spaces. Accordingly, the Agency believes that the proposed provisions will substantially reduce the significant risk faced by employees working in confined spaces (see *Industrial Union Dept.* v. *American Petroleum Institute*, 448 U.S. 607, 655 (1980); *International Union* v. *Pendergrass*, 878 F.2d 389, 392–93 (DC Cir. 1989); *Building and Construction Trades Dept., AFL–CIO v. Brock*, 838 F.2d 1258, 1264–65 (DC Cir. 1988)). OSHA also made a preliminary finding that the proposed rule is technologically feasible because the protective measures it requires already exist (see *American Textile Mfrs. Institute* v. *OSHA (Cotton Dust)*, 452 U.S. 490, 513 (1981); *American Iron and Steel Institute* v. *OSHA (Lead II)*, 939 F.2d 975, 980 (DC Cir. 1991)).

The Agency believes that the proposed rule is economically feasible because the construction industry can absorb or pass on the costs of compliance without threatening its long-term profitability or competitive structure (see *Cotton Dust*, 452 U.S. at 530 n. 55 (1981); *Lead II*, 939 F.2d 975, 980 (DC Cir. 1991)). Moreover, the preliminary economic analysis of the proposed rule describes the benefits and costs of the proposed rule (see section V.B. of this preamble, ''Summary of the Preliminary Economic Analysis and Initial Regulatory Flexibility Analysis''). Based on this information, OSHA made a preliminary determination that the proposed rule is an economically feasible means of meeting its statutory objective of reducing the risk associated with employee exposure to confined spaces (see *Cotton Dust*, 453 U.S. at 514 n. 32 (1981); *LOTO II*, 37 F.3d 665, 668 (DC Cir. 1994)).

B. Summary of the Preliminary Economic Analysis and the Initial Regulatory Flexibility Analysis

Under Section 6(b) of the Occupational Safety and Health Act of 1970 (''the Act''; 29 U.S.C. 655), OSHA must ensure and demonstrate that standards promulgated under the Act are reasonably necessary or appropriate, as well as technologically and economically feasible. Executive Order 12866, the Regulatory Flexibility Act, and the Unfunded Mandates Reform Act also require OSHA to estimate the costs, assess the benefits, and analyze the impacts of certain rules that the Agency promulgates. Accordingly, OSHA has prepared a Preliminary Economic Analysis (PEA) for this proposed standard. The complete PEA can be found in OSHA Docket OSHA–2007–0026 (Ex. OSHA–2007–0026–0002); a summary of the analysis is presented here. OSHA based the PEA largely on research conducted for this purpose by CONSAD Research Corporation (Ex. OSHA–2007–0026–0003).

Need for Regulation

Employees in work environments addressed by the proposed standard are exposed to a variety of significant hazards that can and do cause serious injury and death. The risks to employees are excessively large due to the existence of market failures, and existing and alternative methods of alleviating these negative consequences have been shown to be insufficient. After carefully weighing the various potential advantages and disadvantages of using a regulatory approach to improve upon the current situation, OSHA preliminarily concludes that in this case the proposed mandatory standard represents the best choice for reducing the risks to employees.

Affected Industries

The proposal would affect employers and employees in a variety of different construction industries in which confined spaces are entered as part of the performance of work duties. These industries include firms involved in construction projects such as multi-family housing; industrial buildings and warehouses; other non-residential buildings; highway and street construction; water, sewer, power, and communication line construction; and other construction projects in which confined spaces may be present. The firms that would be primarily affected by the proposed standard would be those that have overall responsibility for the work done on a particular construction project involving a confined space, including the work of their own employees and that of any subcontractors.

Benefits, Net Benefits, and Cost Effectiveness

The proposed standard is expected to result in an increased degree of safety for the affected employees. Compliance with the relevant provisions of the standard is expected to reduce the numbers of accidents, fatalities, injuries, and illnesses associated with the affected projects (Ex. OSHA–2007–0026–0002).

Preliminary estimates indicate that about six fatalities and 880 injuries could be avoided annually through full compliance with the provisions of the proposed standard. Applying an average monetary value of $50,000 per prevented injury, and an average monetary value of $6.8 million per prevented fatality, results in an estimated monetized benefit of about $85 million annually.

Additional benefits associated with this rulemaking involve providing updated, clear, and comprehensive information about appropriate safety requirements and procedures regarding construction work in confined spaces to the relevant employers, employees, and interested members of the public. OSHA believes that the updated standard would enhance employee safety and would be easier to understand and to apply than the various requirements currently applicable to such work. They will benefit employers and employees by facilitating compliance, while improving safety. The benefits associated with providing updated and clear safety standards have not been monetized or quantified.

Table 2 below provides a summary of the costs and benefits of the proposed standard, and shows the net benefits and cost effectiveness of the standard. Net benefits are estimated to be $8.2 million annually. The cost effectiveness of the standard can be expressed as the prevention of approximately one fatality and 147 injuries per $13 million in costs, or alternatively, $1.11 of benefits per dollar of cost.

TABLE 2.—NET BENEFITS AND COST EFFECTIVENESS

Requirement	Cost
Annualized Costs	
Evaluation, classification, and notification	$5.6 million.
Issue permits, verify safety, and review procedures	$6.1 million.
Provide ventilation and isolate hazards	$6.0 million.
Atmospheric monitoring	$11.7 million.
Attendant	$14.0 million.
Respiratory protection	$10.0 million.
Rescue capability	$9.6 million.
Training	$8.1 million.
Other requirements	$5.7 million.
Total annual costs	$76.8 million.
Benefit	**Quantity**
Annual Benefits	
Number of fatalities prevented	6.
Number of injuries prevented	880.
Monetized benefits (assuming $6.8 million per fatality and $50,000 per injury prevented).	$85 million.
OSHA standards updated and clarified	Not quantified.
Total annual benefits	6 fatalities and 880 injuries prevented.
Net annual benefits (benefits minus costs)	$8.2 million.
Cost effectiveness	1 fatality and 147 injuries prevented per $13 million or $1.11 of benefits per $1.00 of cost.

Note: Costs represent 2002 dollars.

OSHA recognizes that uncertainties may be associated with estimates of benefits. Therefore, OSHA is asking for public comment on the overall estimates of benefits addressed by the proposed standard, and the methodology used to determine the effectiveness of the standard in preventing death and injury.

Compliance Costs

The estimated compliance costs for this proposed standard represent the additional costs necessary for employers to achieve full compliance. They do not include costs incurred by employers who already are complying with the new requirements that would be imposed by the proposed standard (Ex. OSHA–2007–0026–0002).

The total annual cost of compliance with the proposed standard is estimated to be about $77 million. The major provisions involving compliance costs include the evaluation, classification, and notification of confined spaces ($5.6 million); issuing entry permits, verifying the safety of spaces, and reviewing procedures ($6.1 million); isolating hazards and providing sufficient ventilation ($6.0 million); conducting atmospheric monitoring ($11.7 million); providing an attendant ($14.0 million); providing a complete respiratory-protection program as required by 29 CFR 1926.103 ($10.0 million); providing rescue capability ($9.6 million); providing training ($8.1 million); and other requirements ($5.7 million).

Economic Impacts

To assess the effects and magnitude of the economic impacts associated with compliance with the proposed rule, OSHA developed quantitative estimates of the potential economic impact of the requirements on entities in each of the affected industry sectors (Ex. OSHA–2007–0026–0002). The estimated costs of compliance were compared with industry revenues and profits to provide an assessment of potential economic impacts.

The costs of compliance with the proposed rule are not large in relation to the corresponding annual financial flows associated with the regulated activities. The estimated costs of compliance represent about 0.1 percent or less of revenues for each affected industry. Alternatively, the compliance costs represent less than 1 percent of profits for most affected industries, and no more than 2.5 percent of profits for any affected industry.

The economic impact of the proposed rule is most likely to consist of a small increase in prices for affected construction projects of less than 0.03 percent on average. It is unlikely that a price increase on the magnitude of 0.03 percent or less will significantly alter the services demanded by the public or any other affected customers or intermediaries. If the compliance costs of the proposed rule can be substantially recouped with a minimal increase in

prices, there may be little or no effect on profits.

OSHA concludes that compliance with the requirements of the proposed rule is economically feasible in every affected industry sector. In addition, based on an analysis of the costs and economic impacts associated with this rulemaking, OSHA preliminarily concludes that the effects of the proposed standard on international trade, employment, wages, and economic growth for the United States would be negligible.

Initial Regulatory Flexibility Analysis

The Regulatory Flexibility Act, as amended in 1996, requires the preparation of an Initial Regulatory Flexibility Analysis (IRFA) for certain proposed rules. (5 U.S.C. 601–612.) Under the provisions of the law, each such analysis shall contain:

1. A description of the impact of the proposed rule on small entities;

2. A description of the reasons why action by the agency is being considered;

3. A succinct statement of the objectives of, and legal basis for, the proposed rule;

4. A description of and, where feasible, an estimate of the number of small entities to which the proposed rule will apply;

5. A description of the projected reporting, recordkeeping and other compliance requirements of the proposed rule, including an estimate of the classes of small entities that will be subject to the requirements and the type of professional skills necessary for preparation of the report or record;

6. An identification, to the extent practicable, of all relevant Federal rules that may duplicate, overlap or conflict with the proposed rule; and

7. A description and discussion of any significant alternatives to the proposed rule that accomplish the stated objectives of applicable statutes and that minimize any significant economic impact of the proposed rule on small entities, including:

(a) The establishment of differing compliance or reporting requirements or timetables that take into account the resources available to small entities;

(b) The clarification, consolidation, or simplification of compliance and reporting requirements under the rule for such small entities;

(c) The use of performance rather than design standards; and

(d) An exemption from coverage of the rule, or any part thereof, for such small entities.

The Regulatory Flexibility Act further states that the required elements of the IRFA may be performed in conjunction with or as part of any other agenda or analysis required by any other law if such other analysis satisfies the relevant provisions. The following paragraphs discuss each of the elements of the IRFA.

1. Impact of the Proposed Rule on Small Entities.

OSHA has analyzed the potential impact of the proposed standards on small entities. The total annual cost of compliance with the proposal for small entities is estimated to be $42.4 million, as shown by industry in Table 3. To assess the potential economic impact of the proposal on small entities, OSHA calculated the ratios of compliance costs to profits and to revenues. These ratios are presented for each affected industry in Table 3. OSHA expects that among small entities potentially affected by the proposal, the average increase in prices necessary to completely offset the compliance costs would be 0.02 percent. The average price increase necessary to completely offset compliance costs would not exceed 0.12 percent among small entities in any industry.

TABLE 3.—POTENTIAL ECONOMIC IMPACTS FOR SMALL ENTITIES (SBA DEFINITION)

Industry code	Industry name	Compliance costs	Small entity revenues ($000)	Small entity profits ($000)	Costs as a percent of revenues (%)	Costs as a percent of profits (%)
SIC 1522	Residential Housing—Multi-family	$5,725,951	$11,495,106	$505,785	0.05	1.13
SIC 1541	Industrial Buildings and Warehouses	5,866,386	19,360,399	793,776	0.03	0.74
SIC 1542	Other Nonresidential Buildings	11,180,340	91,307,565	3,287,072	0.01	0.34
SIC 1611	Highway and Street Construction	6,010,530	26,957,228	1,186,118	0.02	0.51
SIC 1622	Bridges, Tunnels, and Elevated Highways.	4,842,583	3,933,715	110,144	0.12	4.40
SIC 1623	Water, Sewer, Power, and Communication Lines.	1,494,314	18,867,729	641,503	0.01	0.23
SIC 1629	Heavy Construction, Not Elsewhere Classified.	5,304,682	15,031,723	977,062	0.04	0.54
SIC 1791	Structural Steel Erection Contractors	2,023,887	5,160,641	258,032	0.04	0.78
Total [1]		42,448,675	192,114,106	7,759,492	0.02	0.55

[1] For all Affected Industries.

Only to the extent that such price increases are not possible would there be any effect on the average profits of small entities. Even in the unlikely event that no costs could be passed through, the compliance costs could be completely absorbed through an average reduction in profits of 0.55 percent. In most affected industries the compliance costs could be completely absorbed through an average reduction in profits of less than 1 percent; the reduction would be no more than 4.4 percent in any of the affected industries.

To further ensure that potential impacts on small entities were fully analyzed and considered, OSHA also separately examined the potential impacts of the proposed standards on very small entities, defined as those with fewer than 20 employees. To assess the potential economic impact of the proposed standards on very small entities, OSHA calculated the ratios of compliance costs to profits and to revenues. These ratios are presented for each affected industry in Table 4. OSHA expects that among very small entities potentially affected by the proposed standards, the average increase in prices necessary to completely offset the compliance costs would be 0.03 percent.

TABLE 4.—POTENTIAL ECONOMIC IMPACTS ON VERY SMALL ENTITIES (FEWER THAN 20 EMPLOYEES)

Industry code	Industry name	Compliance costs	Very small entity revenues ($000)	Very small entity profits ($000)	Costs as a percent of revenues (%)	Costs as a percent of profits (%)
SIC 1522	Residential Housing—Multi-family	$3,654,087	$7,366,193	$103,127	0.05	3.54
SIC 1541	Industrial Buildings and Warehouses	2,790,417	8,612,408	310,047	0.03	0.90
SIC 1542	Other Nonresidential Buildings	5,186,374	36,053,770	1,117,667	0.01	0.46
SIC 1611	Highway and Street Construction	1,880,936	6,869,911	82,439	0.03	2.28
SIC 1622	Bridges, Tunnels, and Elevated Highways.	1,234,911	797,366	45,450	0.15	2.72
SIC 1623	Water, Sewer, Power, and Communication Lines.	531,241	6,186,875	327,904	0.01	0.16
SIC 1629	Heavy Construction, Not Elsewhere Classified.	4,256,837	10,014,249	80,114	0.04	5.31
SIC 1791	Structural Steel Erection Contractors	817,833	2,023,377	22,257	0.04	3.67
Total [1]		20,352,635	77,924,149	2,089,005	0.03	0.97

[1] For All Affected Industries

Only to the extent that such price increases are not possible would there be any effect on the average profits of very small entities. Even in the unlikely event that no costs could be passed through, the compliance costs could be completely absorbed through an average reduction in profits of 0.97 percent among affected very small entities.

2. A Description of the Reasons Why Action by the Agency is Being Considered

Employees performing construction work in confined spaces are potentially exposed to a variety of significant hazards that can and do cause serious injury and death. Based on research conducted by CONSAD (Ex. OSHA–2007–0026–0003), OSHA estimates that an average of 967 serious injuries and 6.5 fatalities occur annually among these workers, and that an estimated six fatalities and 880 injuries would be prevented annually through full compliance with the proposed standard.

Additional benefits associated with this rulemaking involve providing updated, clear, and comprehensive safety standards regarding construction work in confined spaces to the relevant employers, employees, and interested members of the public. The existing OSHA standards for the construction industry do not directly address work in confined spaces in a comprehensive manner. An additional and more complete discussion of the reasons why this standard is being proposed by the Agency is provided in other sections of the preamble of this proposal.

3. Statement of the Objectives of, and Legal Basis for, the Proposed Rule

The primary objective of the proposed standard is to provide an increased degree of occupational safety for employees performing construction work in confined spaces. As stated above, an estimated 880 injuries and six fatalities would be prevented annually through compliance with the proposed standard. Another objective of the proposed rulemaking is to provide updated, clear, and comprehensive safety standards regarding construction work in confined spaces to the relevant employers, employees, and interested members of the public.

The legal basis for the rule is the responsibility given the Department of Labor through the Occupational Safety and Health (OSH) Act of 1970. The OSH Act authorizes and obligates the Secretary of Labor to promulgate mandatory occupational safety and health standards as necessary ''to assure so far as possible every working man and woman in the Nation safe and healthful working conditions and to preserve our human resources.'' 29 U.S.C. 651(b). The legal authority can also be cited as 29 U.S.C. 655(b); 40 U.S.C. 333.

4. Description of and Estimate of the Number of Small Entities To Which the Proposed Rule Will Apply

OSHA has completed a preliminary analysis of the impacts associated with this proposal, including an analysis of the type and number of small entities to which the proposed rule would apply, as described above. In order to determine the number of small entities potentially affected by this rulemaking, OSHA used the definitions of small entities developed by the Small Business Administration (SBA) for each industry.

For the construction industry generally, SBA defines small businesses using revenue-based criteria. For most of the affected construction industries, including those which are mostly comprised of general contractors, firms with annual revenues of less than $28.5 million are classified as small businesses. For specialty contractors, such as structural steel erection contractors, firms with annual revenues of less than $12 million are considered to be small businesses.

The proposed standard would primarily impact firms that are general contractors on projects for which employees must enter confined spaces for purposes of performing construction work. Based on the definitions of small entities developed by SBA for each industry, the proposal is estimated to potentially affect a total of 86,012 small entities, as shown in Table 5. Included in this number are an estimated 74,088 entities with fewer than 20 employees.

TABLE 5.—PROFILE OF POTENTIALLY AFFECTED SMALL ENTITIES

Industry code	Industry name	Number of small entities (SBA definition)	Establishments operated by small entities	Number of employees of small entities	Number of very small entities (<20 employees)	Number of employees of very small entities
SIC 1522	Residential Housing—Multi-family	7,328	7,334	46,593	6,879	29,734
SIC 1541	Industrial Buildings and Warehouses	8,342	8,353	80,498	7,254	38,290
SIC 1542	Other Nonresidential Buildings	29,483	29,523	311,451	25,710	144,477
SIC 1611	Highway and Street Construction	10,068	10,113	149,342	7,940	46,735
SIC 1622	Bridges, Tunnels, and Elevated Highways	996	1,001	20,360	673	5,192
SIC 1623	Water, Sewer, Power, & Communication Lines	10,582	10,597	144,659	8,470	51,427
SIC 1629	Heavy Construction, Not Elsewhere Classified	15,173	15,194	120,414	13,888	96,629
SIC 1791	Structural Steel Erection Contractors	4,040	4,043	48,514	3,274	19,604
Totals		86,012	86,158	921,831	74,088	432,088

Source: CONSAD (Ex. OSHA–2007–0026–0003), Tables 7.1 and 7.2.

5. Description of the Projected Reporting, Recordkeeping and Other Compliance Requirements of the Proposed Rule

OSHA is proposing a standard that would address the work practices to be used, and other requirements to be followed, for performing construction work in confined spaces. Employers would be required to keep records associated with work in confined spaces as specified by the standard. Records would include entry permits and verification documents. Regular reporting would not be required by the proposed standard; however, employers would be required to demonstrate compliance with the recordkeeping requirements as part of OSHA compliance inspections.

Other compliance requirements of the proposed standard include, as required, the evaluation and classification of confined spaces, isolating hazards and providing sufficient ventilation, conducting atmospheric monitoring, providing an attendant, providing respiratory protection, providing rescue capability, and providing training.

The preamble to the proposed standard provides a comprehensive description of, and further detail regarding, the provisions of the proposed rulemaking. A description of the types of entities that would be subject to the new and revised requirements, and the types of professional skills necessary for compliance with the requirements, is presented in greater detail in the preliminary economic analysis (Ex. OSHA–2007–0026–0002).

6. Federal Rules Which May Duplicate, Overlap or Conflict With the Proposed Rule

OSHA recognizes that this proposed standard may overlap with provisions in other part 1926 standards, such as those generically addressing obligations to provide training or to provide respiratory protection when appropriate. OSHA has clarified the relationship between the proposed standard and other pre-existing construction standards that may be applicable in a confined space. In § 1926.1202(c), as well as Appendix A, OSHA has explained how overlapping standards would interact with each other, and the obligations of an employer in such situations. OSHA has also explained in the preamble how practical situations would be evaluated under the requirements of the draft standard when it overlaps with another OSHA requirement. OSHA has not identified any other Federal rules that may duplicate, overlap, or conflict with the proposal, and requests comments from the public regarding this issue.

7. Alternatives to the proposed rule which accomplish the stated objectives of applicable statutes and which minimize any significant economic impact of the proposed rule on small entities

OSHA evaluated many alternatives to the proposed standards to ensure that the proposed requirements would accomplish the stated objectives of applicable statutes and would minimize any significant economic impact of the proposal on small entities. In developing the proposal, and especially in establishing compliance or reporting requirements or timetables that affect small entities, the resources available to small entities were taken into account. Compliance and reporting requirements under the proposal applicable to small entities were clarified, consolidated, and simplified to the extent practicable. Wherever possible, OSHA has proposed the use of performance rather than design standards. An exemption from coverage of the rule for small entities was not considered to be a viable option under the OSH Act because the safety and health of the affected employees would be unduly jeopardized. The OSH Act contains no explicit provision that permits an exemption of small entities for purposes of setting safety and health standards.

Many other specific alternatives to the proposed requirements were considered and discussed elsewhere in the preamble. The Small Business Advocacy Review Panel, which was convened for purposes of soliciting comments on the proposal from affected small entities, addressed several alternatives. A discussion of these alternatives is provided below in Table 6. Nonregulatory alternatives were also considered in determining the appropriate approach to reducing occupational hazards associated with construction work in confined spaces. These alternatives were discussed in Chapter III of the preliminary economic analysis (Ex. OSHA–2007–0026–0002).

Recommendations of the Small Business Advocacy Review Panel

On September 26, 2003, OSHA convened a Small Business Advocacy Review Panel (''Panel'') for this rulemaking in accordance with the provisions of the Small Business Regulatory Enforcement Fairness Act of 1996 (Pub. L. 104–121), as codified at 5 U.S.C 601 *et seq.* The Panel consisted of representatives of OSHA, of the Office of Information and Regulatory Affairs (OIRA) in the Office of Management and Budget (OMB), and of the Office of Advocacy within the U.S. Small Business Administration (SBA). The Panel received oral and written comments on a draft proposal and a draft economic analysis from small entities that would potentially be affected by this rulemaking. The Panel, in turn, prepared a written report which

was delivered to the Assistant Secretary for Occupational Safety and Health. The report summarized the comments received from the small entities, and included recommendations from the Panel to OSHA regarding the proposal and the associated analysis of compliance costs. Table 6 below lists each of the recommendations made by the Panel and describes the corresponding answers or changes made by OSHA in response to the issues raised.

TABLE 6.—SUMMARY OF SMALL BUSINESS ADVOCACY REVIEW PANEL RECOMMENDATIONS AND OSHA RESPONSES

Panel recommendation	OSHA's response
1. The SERs generally believed that OSHA had underestimated the costs of the draft proposed standard. OSHA is committed by law to develop its analyses using the best available evidence, and it will consider carefully the SER comments in the light of this test. The Panel recommends that OSHA revise its economic and regulatory flexibility analysis as appropriate to reflect the SERs' comments on underestimation of costs, and that the Agency compare OSHA's revised estimates to alternative estimates provided by the SERs. For those SER estimates that OSHA does not adopt, OSHA should explain its reasons for preferring an alternative estimate, and solicit comment on the issue.	The Agency relied on the comments from the SERs to help ensure that the estimated costs of compliance with the proposed standard would reflect the actual costs that businesses could be expected to incur when complying with the requirements specified by the draft proposed standard. OSHA incorporated the comments from the SERs in the development of the proposed standard and the associated analysis in three ways. First, some requirements (such as those addressing hazardous-enclosed spaces) were eased or eliminated altogether in light of the information provided and issues raised by the SERs with regard to achieving compliance in real-world situations. Second, some requirements (such as those involving communications to/from controlling employers and the classification of spaces) were revised or clarified to avoid the potential for misinterpretations regarding the applicability of requirements and the specific actions necessary to ensure compliance, which appeared to be a source of misinterpretation among the SERS when they reviewed the estimates of compliance costs in the draft proposed standard. Third, OSHA revised upwards the estimated costs of compliance associated with some requirements (such as those involving training and atmospheric monitoring). The revisions are each discussed in further detail below in the responses to the specific Panel recommendations separately addressing each of these issues.
2. Many SERs observed that OSHA had underestimated the cost of training. They were concerned particularly about the length of time required for training, training the trainers, renewal training, and multilingual training. The SERs also noted that much retraining could be avoided if OSHA adopted the general industry rule because most firms already have trained their employees on that rule. Some SERs also noted that they still need to train employees on the general industry standard because some of their work would come under the general industry standard. In these situations, they would need to continue training on the general industry standard while adding training on the Construction standard, and on how employees should determine which standard applies. Because OSHA's economic analysis examined training on a project basis, it is difficult to compare OSHA's cost estimates to the estimates provided by the SERs. The Panel recommends that OSHA carefully analyze the SERs' comments on training costs by developing methods for comparing these cost estimates to those estimates provided in OSHA's economic analysis. OSHA then should compare these costs to its present cost estimates, and revise its training costs as necessary based on all of the available information.	The Agency reviewed its estimates of the costs of complying with the training requirements in the proposed standard in light of the additional information provided by the SERs. Many SERs expressed that they already train employees to comply with the general industry standard. While some new terms, equipment, and information exchange requirements have been introduced in the proposed construction standard, the core provisions in the proposed construction standard are already required by the general industry standard. Therefore, OSHA believes that because the proposed standard retains most of the requirements of the general industry standard, there will be only minimal additional costs for employers in training employees to comply with the construction standard. As such, it is anticipated that employers who are already familiar with the general industry standard will find that they already comply with the draft construction standard in everyday work, therefore minimizing the amount of possible ''retraining'' necessary. However, under the proposed standard, OSHA has decided not to allow compliance with the general industry standard in lieu of compliance with the construction industry standard for construction projects since there are situations where the general industry standard would not adequately protect construction employees because of the unique characteristics of construction work (see section II.B. (''History'') of this notice for a discussion of this issue.). As a result of the comments submitted by the SERs, OSHA incorporated additional cost elements in its estimates of training costs that effectively doubled the cost estimates initially provided to the SERs. To facilitate comparability, OSHA also converted the estimated costs from project-based estimates to employer-based estimates. Under the proposed standard, on an average annual basis, estimated training costs would be equivalent to ten hours of employee time plus one hour of supervisor time for each employee; in addition, 32 hours of supervisory time plus eight hours of clerical time (or an equivalent cost) would be spent every five years to develop and review the training program.

TABLE 6.—SUMMARY OF SMALL BUSINESS ADVOCACY REVIEW PANEL RECOMMENDATIONS AND OSHA RESPONSES—Continued

Panel recommendation	OSHA's response
3. Many SERs stated that OSHA had neglected some elements of monitoring costs, such as the need for a competent person to conduct the monitoring, the need for the entire crew to wait while a supervisor performs the monitoring, the short life span in the field of monitoring equipment, and costs associated with calibrating the equipment. Those SERs affected by the hazardous-enclosed spaces portion of the draft proposed rule were concerned particularly about increased monitoring costs. The Panel notes that if the SERs' views about the life of equipment and the need for the entire crew to suspend work during monitoring are correct, and no other assumptions are changed, the costs of monitoring would be three to five times higher than OSHA estimated, adding $6 to $12 million to the cost of the draft proposed standard. The Panel recommends that OSHA consider these factors and revise its monitoring-cost estimates accordingly, and that monitoring costs reflect the total actual costs associated with conducting monitoring, including the cost of transporting and maintaining equipment, and the costs associated with crew members waiting for the completion of monitoring activities.	The Agency reviewed its estimates of the costs of complying with the atmospheric-monitoring requirements in the proposed standard in light of the additional information provided by the SERs. As a result of the comments submitted by the SERs, OSHA incorporated additional cost elements in its estimates of monitoring costs that increased the cost estimate initially provided to the SERs by almost $6 million per year. The costs associated with setting up monitoring equipment were increased to 20 minutes (instead of 10 minutes) to reflect the possibility of additional losses of productive work time by other employees. The costs associated with purchasing and maintaining the necessary monitoring equipment were doubled from $1,400 every five years to $1,400 every 2.5 years to reflect various incidental costs identified by the SERs, and to reflect less-than-ideal real world conditions and unanticipated occurrences that can increase actual costs. OSHA also doubled the costs associated with periodic calibration of the equipment to reflect possible additional time and costs associated with the transportation of equipment and other incidental expenses.
4. Many SERs were concerned that the hazardous-enclosed spaces provisions of the draft proposed rule would result in extensive costs with few benefits. Some SERs thought the provisions required little recordkeeping beyond what they currently do. Also, some SERs noted that OSHA had underestimated the costs associated with recordkeeping. The Panel is concerned that the hazardous-enclosed spaces provision would require major atmospheric-testing and -monitoring burdens not identified in the cost analysis. The Panel recommends that OSHA carefully examine the benefits and costs of this portion of the rule, and compare these requirements carefully to what is required under other existing regulations, and to existing construction industry practice.	As recommended by the Panel, OSHA carefully examined the hazardous-enclosed space portion of the draft proposed standard. OSHA also reexamined applicable existing requirements, the effects and extent of occupational risks involved, and the potential for risk reduction with the promulgation of additional regulatory requirements for hazardous-enclosed spaces. Based on this reexamination, the Agency concluded that, for now, no new or additional requirements will be proposed for hazardous-enclosed spaces. OSHA believes that potential hazards associated with these spaces are adequately covered by other standards (for example, 29 CFR 1926.55). Therefore, all requirements involving hazardous-enclosed spaces have been eliminated from the proposed standard for confined spaces in construction.
5. Most SERS were concerned that the treatment of controlling employers in the draft proposed standard would result in additional costs for controlling employers in the form of increased monitoring and supervision of subcontractor activities. SERs also were concerned with the costs and time required to meet the coordination and communication requirements of the draft proposed standard. The Panel recommends that, if OSHA does not clarify these provisions, then it should examine further the possible costs of the controlling-employer provisions in the draft proposed rule. Also, OSHA should be certain that it has accounted for all of the burdens associated with this provision.	The Agency has since clarified the duties of the controlling employer in § 1926.1204 of the proposed standard (Work evaluation, information exchange, and coordination). In addition to explaining in paragraph (a) of this proposed section that the controlling employer is only required to share specific information it may already have about the space with its subcontractors, OSHA has further clarified in a note to this paragraph that the controlling or host employer is not required to enter a confined space to collect the specified information for its subcontractors. Therefore, we believe that compliance with proposed § 1926.1204 would not be an added cost to controlling employers. Its purpose is to aid them in their duties to safely coordinate the activities of their subcontractors within the space.
6. Many SERs were concerned that the increased complexity of the classification system would add not only to the training costs but also to the costs associated with classifying confined spaces. The Panel recommends that, if the classification process is not simplified, OSHA should further analyze the costs associated with classifying confined spaces.	The Agency has revised the classification system to clarify and simplify how confined spaces are to be classified. The Agency believes that this system is an improvement over the general industry standard when applied to the construction industry because it explicitly defines possible classifications, some of which enable compliance burdens for employers to be reduced where appropriate.

TABLE 6.—SUMMARY OF SMALL BUSINESS ADVOCACY REVIEW PANEL RECOMMENDATIONS AND OSHA RESPONSES—Continued

Panel recommendation	OSHA's response
7. OSHA estimated that the draft proposed standard potentially affects small entities performing construction work in confined and enclosed spaces. Small entities in eight specific construction industry classifications were identified as being potentially affected by the draft proposed standard. These classifications include Residential Housing (SIC 1522); Industrial Buildings (SIC 1541); Other Nonresidential Buildings (SIC 1542); Highway and Street Construction (SIC 1611); Bridge and Tunnel Construction (SIC 1622); Water, Sewer, and Pipeline Construction (SIC 1623); Other Heavy Construction (SIC 1629); and Structural Steel Erection (SIC 1791). For each of these industry classifications, Table 3 in the Panel report shows estimates of the total number of small firms in the industry, the number of establishments operated by these firms, the number of employees of these firms, and the total sales of these firms. These figures represent the best available estimates for the numbers of potentially affected small entities meeting the definition of a small entity established by the Small Business Administration for these particular industry sectors. In summary, an estimated 86,012 small entities are potentially affected by the draft proposed standard. These firms operate an estimated 86,158 establishments, employ an estimated 921,831 employees, and generate total sales estimated at $192 billion. In addition to the small entities identified above, small entities in another industry classification, General Contractors for Single Family Homes (SIC 1521), may be affected by the provisions of the draft proposed standard addressing hazardous-enclosed spaces. The Panel recommends that prior to publishing a proposed standard, OSHA should clarify these requirements and include the associated compliance costs, impacts, and benefits in the analysis of the proposal.	As noted in the Agency's response to item 4 above, the requirements addressing hazardous-enclosed spaces that the Panel believed may impose a burden on the industrial sector for General Contractors for Single Family Homes have been deleted from the proposed standard.
8. Almost all of the SERs found the draft proposed standard difficult to follow. The SERs stated that they currently were using the general industry standard and were familiar with it. A few SERs saw some advantages to the differences between the draft proposed standard and the general industry standard, but even these SERs did not believe that these advantages were sufficient to justify the amount of training the draft proposed standard would require. The Panel recommends that OSHA either make the standard easier to follow, consider a standard closer to the general industry standard, or develop a standard in which the classification provisions that provide greater flexibility to employers are optional rather than required.	OSHA addressed the concerns of the SERs about the difficulty in following the text of the proposed standard. OSHA has reorganized the regulatory text in such a manner that an employer will be led step-by-step through the classification and safety-precaution requirements for each type of confined space. In addition, OSHA has included sample forms (Appendix B) to aid employers in following the proposed standard. OSHA has recognized and addressed problematic situations common to construction sites that are not clearly addressed by the general industry standard (i.e., sites where there is no host, the kind of information that needs to be exchanged between entities, doing the initial hazard assessment of a previously unclassified space, etc.). OSHA has adopted many of the general industry provisions, and adjusted them for use on a construction worksite.
9. Most SERs were confused by the distinctions between types of confined spaces. One SER referred to the distinctions as ''metaphysical.'' The Panel recommends that if these distinctions are retained, they should be made clearer, or OSHA should consider making such classifications optional.	OSHA has revised the regulatory text to allow an employer to choose, to a degree, the level of protection provided by a classification of a confined space that is most appropriate for the hazards within the space. One exception is, as stated in proposed § 1926.1206(a)(1), employers must classify any confined space as a CS–PRCS if that space meets the definition of a CS–PRSC. For all other spaces, proposed § 1926.1206(a)(2) allows employers to classify a space as a PRCS or, alternatively, as a CACS or IHCS if the employer can meet the applicable requirements.
10. Many SERs noted that the hazardous-enclosed spaces requirements would result in a major recordkeeping burden. Some SERs believed that these requirements represented major new requirements for many contractors. OSHA notes that a few of the SERs seemed unacquainted with some of the requirements of existing regulations. The Panel notes that the requirement to evaluate each potentially hazardous space, implicit in § 1926.1225(a)(3), could radically alter the compliance requirements and the costs of the rule in ways not reflected in OSHA's Preliminary Initial Regulatory Flexibility Analysis. The Panel recommends that OSHA more carefully explain the relation of these requirements to existing requirements and practice, and explain the need for different requirements.	See the Agency's response to item 4 above.

TABLE 6.—SUMMARY OF SMALL BUSINESS ADVOCACY REVIEW PANEL RECOMMENDATIONS AND OSHA RESPONSES—Continued

Panel recommendation	OSHA's response
11. SERs were concerned that the provisions addressing controlling employers would require general contractors to develop confined-space expertise and provide confined-space supervision. OSHA's intent with these provisions was not to change existing relations between general contractors and their subcontractors, but rather to assure that general contractors provide subcontractors with the information they possess relevant to confined spaces. Some SERs agreed that additional information could be useful. The Panel recommends that OSHA clarify this requirement to indicate that the role of the controlling employer is only to provide any information they possess concerning confined spaces.	As stated above, OSHA has clarified the responsibilities of controlling employers in proposed § 1926.1204. In addition to sharing specific information that it may have about the space with its affected subcontractors, the note to that section clearly states that employers are not required to enter a confined space to gather such information for its subcontractors. OSHA's intent is not to change existing relations between general contractors and their subcontractors, but rather to assure that general contractors provide subcontractors with the information they possess relevant to their subcontractors working safely within a confined space. The proposed standard does not require controlling employers to develop ''confined-space expertise'' to fulfill their duties in the proposed standard.
12. OSHA's Hazard Communication standard also provides guidance to employers on the use of certain chemicals in the workplace. However, OSHA does not see any conflict between this standard and the draft proposed standard. The Hazard Communication standard provides general precautionary information regarding the use of certain chemicals and products; the draft proposed standard provides more explicit requirements for conditions specific to confined and enclosed spaces. Also, many construction contractors still will need to follow the general industry standard [for confined spaces] in some types of work, and thus need to train their workers in using two different standards, and when to apply each standard. The SERs identified other federal standards that they believe address the hazards associated with confined and enclosed spaces, including OSHA standards for Ventilation (§ 1926.57) and for Gases, Vapors, Fumes, Dusts, and Mists (1926.55), and EPA and HUD rules on abatement work. Accordingly, the Panel recommends that OSHA clarify the exact relation between the draft proposed standard and other standards affecting work by construction employers in confined or enclosed spaces, including the Hazard Communication standard, the general industry standard, the Permissible Exposure Limit standards, the Ventilation standard, the Gases, Vapors, Fumes, Dusts, and Mists standard, and applicable EPA and HUD standards.	OSHA recognizes that the draft proposed standard may overlap with provisions in other 1926 standards. OSHA has clarified the relationship between the draft proposed standard and other pre-existing construction standards which may be applicable in a confined space. In § 1926.1202(c), as well as Appendix A, of the proposed standard, OSHA has explained how overlapping standards would interact with each other, and the obligations of an employer in such situations. OSHA has also explained in the preamble of the proposal how practical situations would be evaluated under the requirements of the proposed standard when it overlaps with another OSHA requirement. OSHA is currently unaware of any other Federal agency standards that overlap or conflict with those of OSHA.
13. Alternatives to adopting the draft proposed standard developed by OSHA include adopting the draft proposed standard developed by the Advisory Committee for Construction Safety and Health [ACCSH], the industry consensus standard developed by the American National Standards Institute [ANSI], or the existing OSHA general industry standard [for confined spaces]. Additional alternatives include modifying the OSHA draft proposed standard by removing provisions addressing hazardous-enclosed spaces, removing the requirement to classify spaces in the least hazardous category, revising requirements for atmospheric monitoring to allow periodic monitoring instead of continuous monitoring, and/or reducing or eliminating recordkeeping requirements. The Panel recommends that OSHA continue to consider these alternatives, and discuss and solicit comment on them in the proposed rule.	OSHA considered alternatives to drafting its own confined-space standard for construction. The general industry standard was considered, but found to be unsuitable for the construction industry. OSHA believes that the general industry standard does not adequately address some problematic situations common to construction sites. These concerns include multiple subcontractors working within one space and hazards created as a confined space is built around employees. ANSI is presently considering whether it is feasible to begin drafting a confined-spaces standard for application specifically in construction. OSHA addressed major concerns of the SERs regarding the hazardous-enclosed space requirements in the draft proposed standard by removing that section completely. As previously stated above, OSHA has also revised the draft proposed standard to allow employers greater flexibility in choosing the classification of a confined space that provides the best protection for its employees from the hazards within the particular space. Finally, OSHA has worked to reduce employers' recordkeeping requirements by minimizing the time necessary for employers to maintain documentation. For example, in proposed § 1926.1218, an employer will only be required to maintain entry permits for one year, while verification documents must only be kept so long as there is ongoing work in that confined space.

TABLE 6.—SUMMARY OF SMALL BUSINESS ADVOCACY REVIEW PANEL RECOMMENDATIONS AND OSHA RESPONSES—Continued

Panel recommendation	OSHA's response
14. Most SERs indicated a preference for using the general industry standard for construction work, as opposed to the draft proposed standard. OSHA is concerned that not all construction employers are as familiar with the general industry standard as the SERs are, and that some employers might benefit from a standard designed to provide greater compliance flexibility. The Panel recommends that OSHA consider the alternative of adopting the general industry standard and, if this alternative is not adopted, discuss and solicit comment on this alternative in the proposed rule. If OSHA does not adopt a standard closer to the general industry standard, the Panel recommends that OSHA revise its comparative cost analysis of the general industry rule and the draft proposed standard to take account of SERs' concerns about the increased training, communication, and classification costs associated with the draft proposed standard. The Panel also recommends that OSHA solicit comment on how an alternative standard similar to the general industry standard could be adapted to the construction sector. In addition, the Panel recommends that OSHA analyze and solicit comment on the nonregulatory alternative of not issuing a final standard, relying instead on existing standards and improved outreach.	As stated before, the draft proposed confined-spaces standard for construction addresses some concerns that are unique to the construction industry. OSHA believes that the reorganization of the proposed standard and the elimination of the section on hazardous-enclosed spaces address the safety concerns of confined spaces in construction in a manner that makes it easier to read and to comply with than the general industry standard for confined spaces. OSHA requests that the public submit comments regarding the degree of flexibility granted to employers in classifying confined spaces. In addition, OSHA solicits comment on how an alternative standard similar to the general industry standard could be adapted to the construction sector. [Note that the general industry standard and other alternatives to the proposed rule are discussed above under item 13 of this table. In addition to the general industry standard, other alternatives include the ANSI and draft ACCSH standards for confined spaces. The applicability and relationship of the general industry standard and the other alternative standards to this proposed standard are discussed elsewhere in this preamble (i.e., in the section entitled ''History'' for the general industry and draft ACCSH standards, and in the section entitled ''Applicability of Existing Consensus Standards'' for the ANSI standard).]
15. The SERs were confused by the variety of distinctions among confined spaces, and generally believed that the training required by these provisions negated any advantages that might arise from the flexibility of different types of confined spaces. The Panel recommends that OSHA examine and solicit comment on alternatives that reduce the number of types of confined spaces, and that OSHA consider alternatives that would allow employers the choice of using or ignoring these provisions.	The Agency has reduced the number of classifications by removing the classification of ''Hazardous-Enclosed Space.'' We have further clarified the four remaining categories by reorganizing the text of the proposed standard to ensure that all requirements for each classification type can be found in one section. OSHA requests that the public submit comments regarding other alternatives to the proposed rule. The Agency believes that, because the proposed standard is based on many of the requirements already required in the general industry standard, there will be minimal additional costs for employers to train their employees on the proposed construction standard.
16. Many SERs viewed the requirements for hazardous-enclosed spaces as highly burdensome. The Panel recommends that OSHA remove this provision unless OSHA can (1) clarify exactly how the requirements of this provision are different from other existing requirements and practices; (2) develop a detailed cost analysis of this provision; (3) quantify the hazards associated with hazardous-enclosed spaces; and (4) explain how the hazardous-enclosed space provisions can serve to reduce these hazards. If OSHA retains this requirement or one like it, OSHA also should solicit comment on the need for the recordkeeping requirements in the provision. In addition, OSHA should solicit comment on removing this provision entirely.	As recommended by the Panel, OSHA has removed the provisions for Hazardous-Enclosed Spaces.
17. Most SERs were concerned that the provisions for controlling employers would alter the existing relationship between contractors and subcontractors with little gain in reduced risk to employees. OSHA notes that the purpose of this provision was only to ensure that contractors share available information at multi-employer worksites. OSHA cannot regulate contractual matters between parties or prevent terms of contracts that require subcontractors to follow instructions of general contractors. Some SERs agreed that information sharing would be helpful, but were concerned that the OSHA draft went far beyond this purpose. The Panel recommends that OSHA consider removing this provision or clarifying the purpose of this provision, and solicit comment in the proposal on the need for this provision.	As stated previously, proposed § 1926.1204(a), and the note to that section, clarify the duties of the controlling employer and explain that a controlling employer will not be required to enter a confined space to gather the specified information for the subcontractor. [As noted above in the preamble discussion to proposed § 1926.1204(a), employees of subcontractors on multi-employer worksites, which are common in the construction industry, may enter a confined space after another subcontractor's employees have completed work within the space. In these confined space situations, the completed work can affect the health and safety of employees who subsequently enter the confined space. Therefore, it is critical for the safety of all employees on a worksite that contractors and subcontractors communicate the following information with each other: the location of confined spaces, hazardous conditions affecting confined spaces, precautions taken to address those hazards, and classifications of the confined spaces. Requiring communication between employers is an efficient way to ensure that each employer learns important information about the confined space hazards present so that all employees are adequately protected.]

C. OMB Review Under the Paperwork Reduction Act of 1995

The proposed Confined Spaces in Construction Standard contains collection-of-information (paperwork) requirements that are subject to review by the Office of Management and Budget (''OMB'') under the Paperwork Reduction Act of 1995 (''PRA–95''), 44 U.S.C. 3501 *et seq.*, and OMB's regulations at 5 CFR part 1320. The Paperwork Reduction Act defines ''collection of information'' as ''the obtaining, causing to be obtained, soliciting, or requiring the disclosure to third parties or the public of facts or opinions by or for an agency regardless

of form or format * * *'' (44 U.S.C. 3502(3)(A)). OSHA submitted the collection-of-information requirements identified in the NPRM to OMB for review (44 U.S.C. 3507(d)). OSHA solicits comments on the collection-of-information requirements and the estimated burden hours associated with these collections, including comments on the following:

- Whether the proposed collection-of-information requirements are necessary for the proper performance of the Agency's functions, including whether the information is useful;
- The accuracy of OSHA's estimate of the burden (time and cost) of the information-collection requirements, including the validity of the methodology and assumptions used;
- The quality, utility, and clarity of the information collected; and
- Ways to minimize the burden on employers who must comply, for example, by using automated or other technological techniques for collecting and transmitting information.

The title, description of the need for and proposed use of the information, description of the respondents, and frequency of response of the information collections are described below, along with an estimate of the annual reporting burden and cost as required by 5 CFR 1320.5(a)(1)(iv) and 1320.8(d)(2).

Title: Confined Spaces in Construction (29 CFR part 1926 subpart AA).

Description and Proposed Use of the Collections of Information: The proposed standard would impose new information-collection requirements for purposes of PRA–95. The collection-of-information requirements in the proposed standard have not been approved by OMB. These provisions are needed to protect the health and safety of employees who work in confined spaces at construction worksites.

The paperwork requirements would impose a duty to produce and maintain records on employers who implement controls and take other measures to protect employees from confined-space hazards in construction. Accordingly, each construction business that has employees who enter a confined space would be required to have, as applicable, the following documents on file and available at the job site: entry permits that contain atmospheric-testing and -monitoring information; documentation regarding classification of the space; inspection information identifying physical hazards; signed verifications regarding atmospheric- and physical-hazard determinations and the methods used to protect employees from these hazards; information required to be communicated to contractors and controlling contractors; a copy of the standard or written permit-required confined-space (PRCS) entry program; information provided to medical facilities; an annual review of PRCS entries, and training records for each employee. The documents would have to be made available for review by the affected employees and their authorized representatives before employees enter the space. OSHA also would have access to the records to determine compliance. An employer's failure to generate and disclose the information required in this standard will affect significantly the Agency's effort to control and reduce injuries and fatalities related to confined spaces in construction.

Table 7 below identifies and describes the new collections of information contained in the proposed standard.

TABLE 7.—COLLECTION-OF-INFORMATION REQUIREMENTS OF THE PROPOSED STANDARD

Paragraph 1926.1204(c): Contractors must provide confined-space information to controlling contractors and host employers.
Paragraph 1926.1205(b)(1): Employers must provide or communicate atmospheric-hazard information to medical facilities treating employees for exposure to atmospheres that are immediately dangerous to life and health.
Paragraph 1926.1209(a)(2): Employers must post PRCS danger signs.
Paragraph 1926.1209(d)(5): Employers must maintain records containing specified PRCS training information.
Paragraph 1926.1209(f): Employers must develop safe PRCS termination procedures.
Paragraph 1926.1210(a): Employers must prepare and post PRCS entry permits containing specified information.
Paragraphs 1926.1210(e)(2)(v) and 1926.1211(e)(3): Entry supervisors must sign the PRCS entry permits.
Paragraph 1926.1211(c): Employers must document exposure-monitoring results in the PRCS entry permits.
Paragraphs 1926.1211(f)(5), (f)(6), (f)(7), and (f)(11): Attendants must: communicate with authorized entrants under specified conditions; inform PRCS rescue services when a non-entry or entry rescue is required; inform employers when non-entry or entry rescue begins, and the need to provide medical aid or escape assistance to authorized entrants; warn individuals who are not authorized entrants to stay away from, or to exit, PRCSs; and warn authorized entrants and entry supervisors of any unauthorized PRCS entry.
Paragraphs 1926.1211(g)(2), (g)(3), and (g)(4)(i): Authorized entrants must: communicate with attendants under specified conditions; and inform attendants of any signs, symptoms, unusual behavior or other effect of a hazard.
Paragraph 1926.1211(h)(2): Employers must summon PRCS entry rescue services under specified conditions.
Paragraph 1926.1213(b)(2): Employers must provide PRCS entry rescue services with specified information regarding the PRCSs in which the services conduct rescue operations.
Paragraph 1926.1214(b): Employers must review PRCS entry permits at least annually using specified documents and information.
Paragraph 1926.1216(a)(3): Employers must verify and document specified CACS initial conditions.
Paragraph 1926.1216(b)(1)(ii): Employers must post CACS danger signs.
Paragraph 1926.1216(b)(2)(v): Employers must maintain records containing specified CACS training information.
Paragraphs 1926.1216(d)(4) and (e)(3): Employers must verify and document specified CACS conditions before entry and during entry.
Paragraphs 1926.1217(a)(4) and (c)(3): Employers must verify and document specified IHCS initial conditions and conditions before entry.
Paragraphs 1926.1219(a), (b), and (d): Employers must: maintain a copy of the standard or a written confined-space program at the worksite; retain PRCS entry permits for at least one year; and maintain CACS and IHCS verification documents until the confined-space work is completed.
Paragraph 1926.1219(e): On request from the Secretary of Labor or the Secretary's designee, employers must disclose documents required to be retained by the standard.

Affected Public: Business or other for-profit.

Number of Respondents: 90,760.

Frequency: On occasion (for most of the information-collection requirements; determined by the onset of confined-space operations); annually (for reviewing PRCS entry permits).

Average Time per Response: Varies from one minute to maintain a training record to one hour to develop a written confined-space program.

Estimated Total Burden Hours: 1.04 million hours.

Estimated Costs (Operation and Maintenance): $0.

Submitting comments. Members of the public who wish to comment on the

paperwork requirements in this proposal must send their written comments to the Office of Information and Regulatory Affairs, Attn: OSHA Desk Officer (RIN 1218–AB47), Office of Management and Budget, Room 10235, 725 17th Street NW., Washington, DC 20503. The Agency encourages commenters to also submit their comments on these paperwork requirements to the rulemaking docket, along with their comments on other parts of the proposed rule. For instructions on submitting these comments to the rulemaking docket, see the sections of this **Federal Register** notice titled **DATES** and **ADDRESSES**.

Docket and inquiries. To access the docket to read or download comments and other materials related to this paperwork determination, including the complete Information Collection Request (ICR) (containing the Supporting Statement (describing the paperwork determinations in detail), OMB–83–I Form, and attachments) use the procedures described under the section of this notice titled **ADDRESSES**. You also may obtain an electronic copy of the complete ICR by visiting the Web page *http://www.reginfo.gov/public/do/PRAMain*. Scroll under ''Currently Under Review'' to ''Department of Labor (DOL)'' to view all of the DOL's ICRs, including those ICRs submitted for proposed rulemakings. To make inquiries, or to request other information, contact Mr. Todd Owen, Directorate of Standards and Guidance, OSHA, Room N–3609, U.S. Department of Labor, 200 Constitution Avenue, NW., Washington, DC 20210; telephone (202) 693–2222.

D. Federalism

The Agency reviewed the proposed rule according to the most recent Executive Order (''E.O.'') on Federalism (E.O. 13132, 64 FR 43225). This E.O. requires that Federal agencies, to the extent possible, refrain from limiting State policy options, consult with States before taking actions that restrict their policy options, and take such actions only when clear constitutional authority exists and the problem is national in scope. The E.O. allows Federal agencies to preempt State law only with the expressed consent of Congress. In such cases, Federal agencies must limit preemption of State law to the extent possible.

Section 18 of the Occupational Safety and Health Act of 1970 (''the Act''; 29 U.S.C. 667) expressly provides OSHA with authority to preempt State occupational safety and health standards to the extent that the Agency promulgates a Federal standard under Section 6 of the Act. Accordingly, Section 18 of the Act authorizes the Agency to preempt State promulgation and enforcement of requirements dealing with occupational safety and health issues covered by OSHA standards unless the State has an OSHA-approved occupational safety and health plan (namely, is a State-Plan State). (See *Gade* v. *National Solid Wastes Management Association,* 112 S. Ct. 2374 (1992).)

With respect to States that do not have OSHA-approved plans, the Agency concludes that this proposed rule would conform to the preemption provisions of the Act. Additionally, Section 18 of the Act prohibits States without approved plans from issuing citations for violations of OSHA standards; the Agency finds that the proposed rulemaking would not expand this limitation. Therefore, for States that do not have approved occupational safety and health plans, this proposed rule would not affect the preemption provisions of Section 18 of the Act.

OSHA has authority under E.O. 13132 to promulgate the proposed rule in 26 CFR part 1926 because the employee exposures to confined spaces in the construction industry addressed by the proposed requirements are national in scope. The Agency concludes that the requirements in this proposed rule would provide employers in every State with critical information to use when protecting their employees from the risks of exposure to confined spaces. However, while OSHA drafted the proposed requirements to protect employees in every State, Section 18(c)(2) of the Act permits State-Plan States and Territories to develop and enforce their own standards for confined spaces in construction provided these requirements are at least as effective in providing safe and healthful employment and places of employment as the final requirements that result from this proposal.

In summary, this proposed rule complies with E.O. 13132. In States without OSHA-approved State Plans, Congress expressly provides for OSHA standards to preempt State job safety and health rules in areas addressed by the Federal standards; in these States, this rule limits State policy options in the same manner as every standard promulgated by the Agency. In States with OSHA-approved State Plans, this rulemaking does not significantly limit State policy options.

E. State-Plan States

Section 18(c)(2) of the Occupational Safety and Health Act of 1970 (29 U.S.C. 667(c)(2)) requires State-Plan States to adopt mandatory standards promulgated by OSHA. Accordingly, the 24 States and two Territories with their own OSHA-approved occupational safety and health plans would have to adopt provisions comparable to the provisions in this proposed rule within six months after the Agency publishes the final rule that it develops from this proposal. The Agency believes that the proposed rule would provide employers in State-Plan States and Territories with critical information and methods necessary to protect their employees from the physical and atmospheric hazards found in and around confined spaces during construction. The 24 States and two Territories with State Plans are: Alaska, Arizona, California, Hawaii, Indiana, Iowa, Kentucky, Maryland, Michigan, Minnesota, Nevada, New Mexico, North Carolina, Oregon, Puerto Rico, South Carolina, Tennessee, Utah, Vermont, Virginia, Washington, and Wyoming. Connecticut, New Jersey, New York, and the Virgin Islands have OSHA-approved State Plans that apply to State and local government employees only. Until a State-Plan State/Territory promulgates its own comparable provisions base on the final rule developed from this proposal, Federal OSHA will provide the State/Territory with interim enforcement assistance, as appropriate.

F. Unfunded Mandates Reform Act

OSHA reviewed this proposed rule according to the Unfunded Mandates Reform Act of 1995 (''UMRA''; 2 U.S.C. 1501 *et seq.*) and Executive Order 12875 (58 FR 58093). As discussed above in section III of this preamble (''Summary of the Preliminary Economic Analysis and Initial Regulatory Flexibility Analysis''), the Agency estimates that compliance with this proposed rule would require private-sector employers to expend about $77 million each year. However, while this proposed rule establishes a federal mandate in the private sector, it is not a significant regulatory action within the meaning of Section 202 of the UMRA (2 U.S.C. 1532).

Under voluntary agreement with OSHA, some States enforce compliance with their State standards on public sector entities, and these agreements specify that these State standards must be equivalent to OSHA standards. Thus, although OSHA has included compliance costs for the affected public sector entities in its analysis of the expected impacts associated with the proposal, the proposal would not involve any unfunded mandates being imposed on any State or local government entity. Consequently, this proposed rule does not meet the

definition of a ''Federal intergovernmental mandate'' (see Section 421(5) of the UMRA (2 U.S.C. 658(5))). Therefore, for the purposes of the UMRA, the Agency preliminarily certifies that this proposed rule does not mandate that State, local, and tribal governments adopt new, unfunded regulatory obligations, nor does the proposed rule increase the expenditures by the private sector of more than $100 million a year.

G. Applicability of Existing Consensus Standards

Section 6(b)(8) of the Occupational Safety and Health Act of 1970 (''the Act''; 29 U.S.C. 655(b(8)) requires OSHA to explain ''why a rule promulgated by the Secretary differs substantially from an existing national consensus standard,'' by publishing ''a statement of the reasons why the rule as adopted will better effectuate the purposes of the Act than the national consensus standard.'' The Agency is not proposing to adopt the American National Standards Institute (ANSI) Z117.1 consensus standard (''Safety Requirements for Confined Spaces'') as the OSHA confined-spaces-in-construction standard for several reasons:

1. The Agency believes that the ANSI standard concentrates on confined spaces with oxygen-deficient atmospheres, or with potential overexposures to air contaminants. In this regard, OSHA concurs with the findings it published in the preamble to the general industry confined-spaces standard (58 FR 4464). After reviewing relevant publications by the National Institute for Occupational Safety and Health, the ANSI Z117.1 standards (both the 1989 and the 1977 editions), and the relevant guidelines developed by other organizations, the Agency decided to diverge from the approach used by those standards-setting groups because their documents do not provide sufficient guidance for employers to distinguish among the several types of confined spaces that may be encountered, and among the variety of hazards associated with each type of confined space.

2. OSHA believes that the structure and organization of the ANSI standard is not sufficiently user-friendly for small businesses, especially those that rarely deal with confined spaces.

3. The ANSI standard does not adequately address construction-specific hazards, such as those posed by CS-PRCSs.

OSHA understands that ANSI is developing a consensus standard for confined spaces in construction. Should ANSI publish this consensus standard after the comment period for this proposed standard ends but prior to completing a final rule, OSHA will determine whether it is appropriate to reopen the rulemaking record based on its careful review of the ANSI standard.

H. Review of the Proposed Standard by the Advisory Committee for Construction Safety and Health

The proposed subpart would add requirements to the existing standards in 29 CFR part 1926 that protect employees from exposure to confined-space hazards found in the construction industry. Accordingly, OSHA's regulation governing the Advisory Committee on Construction Safety and Health (ACCSH) at 29 CFR 1912.3 requires OSHA to consult with the ACCSH whenever the Agency proposes a rule that involves the occupational safety and health of construction employees. At the regular meeting of the ACCSH on October 19, 2004, OSHA briefed the members on the proposed subpart using a slide presentation, and then responded to their questions. It subsequently provided the members of the ACCSH with copies of the slides and the proposed regulatory text for their review. At the ACCSH's next regular meeting on February 17, 2005, the OSHA staff answered additional questions from the members; the members then recommended that OSHA proceed with publishing the proposal, taking into consideration written and oral comments provided by them during the meeting.

I. Public Participation—Comments and Hearings

OSHA encourages members of the public to participate in this rulemaking by submitting comments on the proposal and documentary evidence. In this regard, the Agency invites interested parties having knowledge of, or experience with, confined spaces in construction to participate in this process, and welcomes any pertinent data and cost information that will provide it with the best available evidence on which to develop the final regulatory requirements.

Comments. The Agency invites interested parties to submit written data, views, and arguments concerning this proposal. In particular, the Agency welcomes comments on its determination of the economic or other regulatory impacts of the proposed rule on the regulated community. When submitting comments, follow the procedures specified above in the sections titled **DATES** and **ADDRESSES**. The comments must clearly identify the provision of the proposal being addressed, the position taken with respect to each issue, and the basis for that position. Comments, along with supporting data and references, received by the end of the specified comment period will become part of the proceedings record, and will be available electronically for public inspection at the Federal eRulemaking Portal (*http://www.regulations.gov*), or may be read at the OSHA Docket Office, Room N–2625, 200 Constitution Ave., NW., Washington. (See the section of this **Federal Register** notice titled **ADDRESSES** for additional information on how to access these documents.)

Informal Public Hearings. Requests for a hearing should be submitted to the Agency as set forth above under the sections of this notice titled **DATES** and **ADDRESSES**.

List of Subjects in 29 CFR Part 1926

Construction industry, Occupational safety and health, Safety.

Authority and Signature

Edwin G. Foulke, Jr., Assistant Secretary of Labor for Occupational Safety and Health, U.S. Department of Labor, 200 Constitution Ave., NW., Washington, DC 20210, directed the preparation of this notice. The Agency is issuing this proposal under the following authorities: Sections 4, 6(b), 8(c), and 8(g) of the Occupational Safety and Health Act of 1970 (29 U.S.C. 653, 655, 657); Section 3704 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 3701 *et seq.*); Section 4 of the Administrative Procedure Act (5 U.S.C. 553); Secretary of Labor's Order No. 5–2002 (67 FR 65008); and 29 CFR part 1911.

Signed at Washington, DC on November 2, 2007.

Edwin G. Foulke, Jr.,

Assistant Secretary of Labor for Occupational Safety and Health.

For the reasons stated in the preamble of this proposed rule, the Agency is proposing to amend 29 CFR part 1926 by adding subpart AA to read as follows:

PART 1926—[AMENDED]

Subpart AA—Confined Spaces in Construction

Sec.

1926.1200 [Reserved]
1926.1201 Introduction.
1926.1202 Scope.
1926.1203 Definitions applicable to this subpart.
1926.1204 Worksite evaluation, information exchange, and coordination.
1926.1205 Atmospheric testing and monitoring.
1926.1206 Classification and precautions.
1926.1207 Reassessment.

1926.1208 Permit-required confined spaces.
1926.1209 PRCS—initial tasks.
1926.1210 PRCS—preparing for entry.
1926.1211 PRCS—during entry.
1926.1212 PRCS—terminating entry.
1926.1213 PRCS—rescue criteria.
1926.1214 PRCS—entry permits.
1926.1215 Continuous System-PRCS.
1926.1216 Controlled-atmosphere confined spaces—requirements for classification and accident prevention and protection.
1926.1217 Isolated hazard confined spaces—requirements for classification and accident prevention and protection.
1926.1218 Equipment.
1926.1219 Records.
Appendix A to subpart AA of part 1926—List of Confined-Space Requirements in Other Construction Standards that Supplement the Requirements of subpart AA (Mandatory)
Appendix B to subpart AA of part 1926—Sample Entry Permit for PRCSs and CS–PRCSs and Sample Verification Document for CACSs and IHCSs (Non-Mandatory)

Subpart AA—Confined Spaces in Construction

Authority: Section 3704 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 3701); Sections 4, 6, and 8 of the Occupational Safety and Health Act of 1970 (29 U.S.C. 653, 655, 657); Secretary of Labor's Order No. 5–2007 (72 FR 31159); and 29 CFR Part 1911.

§ 1926.1200 [Reserved]

§ 1926.1201 Introduction.

(a) This standard sets out safety precautions that must be taken when working within or near a confined space that is subject to a hazard. Wherever the term ''hazard'' is used in this standard, it means an existing hazard or a hazard that has a reasonable probability of occurring in or near a confined space. A confined space is a space that has all of the following characteristics: Is large enough and so arranged that an employee can bodily enter it, has limited or restricted means for entry and exit, and is not designed for continuous employee occupancy.

(b) A confined space that is subject to a hazard must be classified. The classification determines what accident-prevention and -protection requirements apply to that space.

(1) There are four classifications:

(i) Continuous System-Permit-Required Confined Space (CS-PRCS).

(ii) Permit-Required Confined Space (PRCS).

(iii) Controlled-Atmosphere Confined Space (CACS).

(iv) Isolated-Hazard Confined Space (IHCS).

(2) The employer has the option of selecting any of these classifications, as long as the employer meets the applicable requirements for the classification selected . The one exception is that a space with the characteristics of a CS–PRCS cannot be given a different classification.

(c) There are precautions that must be followed if employees have to enter a space when in the process of determining which classification will be used (see § 1926.1204(b)(2)).

(d) If the contractor determines under § 1926.1204 that the confined space is not subject to any hazards (in which case the confined space need not be classified), the contractor must complete a reassessment of that determination upon the occurrence of any of the indications for reassessment specified in § 1926.1207(a).

§ 1926.1202 Scope.

(a) This standard applies to employers engaged in construction work and who have confined spaces at their job site, unless one of the exceptions in paragraph (b) of this section applies.

Note to § 1926.1202(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); boilers; 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 29 CFR Part 1926 subpart Y (Diving).

(2) Non-sewer construction work regulated by 29 CFR part 1926 subpart P (Excavations).

(3) Non-sewer construction work regulated by 29 CFR part 1926 subpart S (Underground Construction, Caissons, Cofferdams and Compressed Air).

(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 standard's provision(s) and the applicable provisions of this standard.

Note to § 1926.1202(c): A list of confined-space provisions in other construction standards is in Appendix A to this subpart.

(d) The duties of controlling contractors under this standard include, but are not limited to, the duties specified in § 1926.1204(a).

§ 1926.1203 Definitions applicable to this subpart.

Atmospheric hazard (see the definition of *Hazardous atmosphere*).

Attendant is an employee stationed outside one or more PRCSs who performs the duties specified in § 1926.1211(f) (Attendant duties).

Authorized entrant is an employee who the employer authorizes to enter a PRCS and performs the duties specified in § 1926.1211(g) (Authorized entrant duties).

Barrier means a physical obstruction that blocks or limits access.

Blanking or blinding means closing a pipe, line, or duct by covering its bore with a solid plate that can withstand the maximum pressure inside the pipe, line, or duct without leaking. A plate may be a spectacle blind or a skillet blind.

Confined space is a space that has all of the following characteristics:

(1) Is large enough and so arranged that an employee can bodily enter it.

(2) Has limited or restricted means for entry and exit.

(3) Is not designed for continuous employee occupancy.

Note: There are four confined space classifications: Isolated-Hazard Confined Space, Controlled-Atmosphere Confined Space, Permit-Required Confined Space and Continuous System-Permit-Required Confined Space.

Continuous System-Permit-Required Confined Space (CS–PRCS) is a Permit-Required Confined Space that has all of the following characteristics:

(1) Is part of, and contiguous with, a larger confined space (for example, sewers).

(2) The employer cannot isolate it from the larger confined space.

(3) Is subject to a potential hazard release from the larger confined space that would overwhelm personal protective equipment and/or hazard controls, resulting in a hazard that is immediately dangerous to life and health.

Contractor is an employer who has employees engaged in construction, and is neither a controlling contractor nor a host employer.

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

Controlled-Atmosphere Confined Space (CACS) is a confined space that has all of the following characteristics:

(1) Contains no physical hazards or only isolated physical hazards.

(2) Uses ventilation alone to control atmospheric hazards at safe levels.

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

Note: 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 (with regard to lines, ducts, and pipes) closing two in-line valves and locking or tagging them in the closed position, and then opening the drain or vent in the line between the two closed in-line valves and locking or tagging it in the open position.

Early-warning system is 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 is any occurrence, inside or outside a confined space, that could cause death or serious physical harm to employees whose work is covered by this standard. For example, an emergency occurs if an employer fails to isolate a physical hazard or if ventilation or atmosphere-monitoring equipment malfunctions.

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

Entrant (see the definition of *Authorized entrant*).

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

Entry permit means the document used by the employer to control entry into a PRCS as specified in § 1926.1214 (PRCS—entry permits).

Entry rescue occurs when a rescue service enters a PRCS to rescue employees.

Entry supervisor means a qualified individual who the employer assigns to control entry into PRCS as specified in § 1926.1210(e)(2) (Entry supervisor requirements).

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

Hazardous atmosphere means an existing or potential atmosphere consisting of at least one of the following:

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

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

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

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

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

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

Note: If a host employer has overall responsibility for construction at the worksite, then it is both a host employer and controlling contractor.

Immediately dangerous to life or health (IDLH) is a condition that occurs when an employee is exposed to a physical or atmospheric hazard that could result in any one of the following effects:

(1) An immediate threat to life.

(2) Irreversible adverse health effects.

(3) Serious physical harm.

(4) Impaired ability to escape unaided from a confined space.

Identify a hazard means determining the type, quantity, and characteristics of a hazard, including the likelihood that a hazard currently absent from a confined space could enter the confined space.

Inspection information means any information obtained about a space, including, but not limited to, blueprints, schematics, and/or similar documents, documents regarding previous confined space entries, or physical inspection/testing.

Isolate or isolation means the elimination or removal of a physical or atmospheric hazard by preventing its release into a confined space. Isolation includes, but is not limited to, the following methods: Blanking and blinding; misaligning or removing sections of lines, pipes, or ducts; a double-block-and-bleed system; locking out or tagging out energy sources; machine guarding; and blocking or disconnecting all mechanical linkages.

Isolated-Hazard Confined Space (IHCS) is a confined space in which the employer has isolated all physical and atmospheric hazards.

Limited or restricted means for entry and exit refers to 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, hazards, poor illumination, slippery floors, inclining surfaces and ladders.

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 atmosphere in a confined space after an authorized entrant enters the space. This is a process of checking for changes in the atmospheric conditions within a confined space and is performed in a periodic or continuous manner after the completion of the initial testing of that space.

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

OSHA requirement means an OSHA standard or regulation that applies to construction, or the general duty clause of the Occupational Safety and Health Act of 1970 (paragraph (a)(1) of 29 U.S.C. 654).

Permit-Required Confined Space (PRCS) is a confined space that has any one of the following characteristics:

(1) A hazardous atmosphere.

(2) Inwardly converging, sloping, or tapering surfaces that could trap or asphyxiate an employee. For example, a space between walls that narrows towards the base (including, but not limited to, funnels and hoppers).

(3) An engulfment hazard or other physical hazard.

Physical hazard means an existing hazard that can cause death or serious physical harm in or near a confined space, or a hazard that has a reasonable probability of occurring in or near a confined space, and that includes, but is 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 refers to chemicals that can cause death or serious physical harm through skin or eye contact (rather than through inhalation).

Planned conditions are the conditions under which authorized entrants can work safely in a PRCS or CS–PRCS, including hazard levels and methods of employee protection.

Protect or protection means keeping an employee safe in the presence of a physical or atmospheric hazard using methods other than control (for example, using personal protective equipment).

Rescue means retrieving, and providing medical assistance to, employees who are in a PRCS.

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

Retrieval system means the equipment, including mechanical retrieval devices, used for non-entry rescue of authorized entrants from a PRCS.

Safe level is an employee exposure to an atmospheric or physical hazard that meets OSHA requirements.

Serious physical harm means:

(1) An impairment in which a body part is made functionally useless or is substantially reduced in efficiency. Such impairment includes, but is not limited to, loss of consciousness or disorientation, and may be permanent or temporary, or chronic or acute. Injuries involving such impairment would usually require treatment by a physician or other licensed health-care professional; or

(2) An illness that could shorten life or substantially reduce physical or mental efficiency by impairing a normal bodily function or body part.

Simulated Permit-Required Confined Space is a confined space or a mock-up of a confined space that has all of the following characteristics:

(1) Has similar entrance openings, and is similar in size, configuration, and accessibility to the PRCS the authorized entrants enter.

(2) Need not contain any physical or atmospheric hazards.

Standard means this subpart unless otherwise specified.

Test or testing means the process used to identify and evaluate the atmosphere in a confined space before an authorized entrant enters the space.

Unplanned condition means a deviation from the planned conditions.

Ventilate or ventilation means controlling a hazardous atmosphere using continuous forced-air mechanical systems that meet the requirements of 29 CFR 1926.57 (Ventilation).

§ 1926.1204 Worksite evaluation, information exchange, and coordination.

(a) Neither the controlling contractor nor the host employer is required to obtain the information listed in this paragraph. However, if they have it, they must provide it to the contractor for the contractor's evaluation before the contractor first enters a confined space:

(1) The location of each space that the controlling contractor or host employer actually knows is a confined space.

(2) For each of the spaces identified in paragraph (a)(1) of this section:

(i) Any hazards, if known, that affect that space.

(ii) The classification of the space, IHCS, CACS, PRCS, or CS–PRCS, if previously classified.

(iii) Any precautions and procedures that the controlling contractor or host employer previously implemented for entering the space.

Note to § 1926.1204(a): Unless a controlling contractor or host employer has or will have employees in a confined space, they are not required to enter any confined space to collect the information specified in paragraph (a) of this section.

(b) The contractor must determine if there are confined spaces and if these spaces are subject to any hazards, using the following procedures:

(1) Without entering the space, the contractor must consider information, if any, from the host employer and controlling contractor, and use inspection information (see paragraph (b)(2) of this section), to:

(i) Determine if the space meets the definition of a confined space.

(ii) Identify any physical and atmospheric hazards.

(2) If the contractor can demonstrate that obtaining required information without entering the space is infeasible, employees may enter to inspect for that information only if the requirements of §§ 1926.1208 through 1926.1214 (PRCSs) and, if applicable, § 1926.1215 (CS–PRCSs), are met.

(3) To determine if there are atmospheric hazards, the contractor must follow the atmospheric-testing and -monitoring requirements in § 1926.1205. This testing must be done without using mechanical ventilation or altering the natural ventilation in the space.

(4) The contractor must meet other applicable OSHA requirements, including training requirements, for the use of personal and other protective equipment, as required in § 1926.1213(c)(2).

(c) If the contractor classifies a space as an IHCS, CACS, PRCS, or CS–PRCS, it must:

(1) Inform the controlling contractor and host employer of the precautions and procedures the contractor will follow for entry into the space.

(2) At the conclusion of entry operations, inform the controlling contractor and host employer about any hazards that were present, or that developed, during entry operations.

(d) If more than one employer will have employees in the space at the same time, the controlling contractor shall coordinate entry operations with the contractors.

(e) *Employee participation and notification*. The employer must provide its employees who enter a confined space, and their authorized representatives, with an opportunity to observe the evaluations of the space (§ 1926.1204(b)), any reassessment conducted pursuant to § 1926.1207, and atmospheric testing and monitoring required by this standard.

§ 1926.1205 Atmospheric testing and monitoring.

(a) When testing or monitoring atmospheric hazards in a confined space, the employer must:

(1) Test or monitor in the following order: Oxygen, combustible gases and vapors, and toxic gases and vapors, unless testing or monitoring is conducted simultaneously.

(2) Test or monitor for other atmospheric hazards as specified by applicable OSHA requirements.

(3) Monitor periodically and as necessary, unless applicable OSHA requirements or other provisions of this standard specify a different frequency.

(4) Test or monitor using a properly calibrated, direct-reading instrument(s).

(b) If a medical facility treats an employee exposed to an atmosphere that is immediately dangerous to life and health, then the employer must:

(1) Provide or communicate to the medical facility any information that the employer is required to retain regarding the atmosphere (for example, the name of and level of exposure to atmospheric contaminants, and the information required by 29 CFR 1910.1200 (Hazard Communications) to be provided on Material Safety Data Sheets).

(2) Do so as soon as practical after the exposure.

§ 1926.1206 Classification and precautions.

(a) Using the information obtained in § 1926.1204, the employer must classify the space as a Continuous System-Permit-Required Confined Space (CS–PRCS) if the space has all of the following characteristics:

(1) Is part of, and contiguous with, a larger confined space (for example, sewers).

(2) Is not isolated from the larger confined space.

(3) Is subject to a potential hazard release from the larger confined space that would overwhelm personal

protective equipment and/or hazard controls, resulting in a hazard that is immediately dangerous to life and health.

(b) For confined spaces other than a CS–PRCS, the employer must use the information obtained in § 1926.1204 to classify the space as a PRCS (§ 1926.1208) or, alternatively, as a CACS (§ 1926.1216) or IHCS (§ 1926.1217) if the space meets the applicable requirements for the classification selected.

(c) The employer must meet the accident-prevention and -protection requirements applicable to the space classification before any employee enters the space, unless otherwise specified.

§ 1926.1207 Reassessment.

(a) If the contractor made a determination under § 1926.1204 that the confined space was not subject to any hazards, the contractor must reassess that determination if there is an indication that the conditions under which the determination was made have changed. Such indications include, but are not limited to:

(1) A change in the configuration or use of, or the type of work conducted or materials used in, the confined space.

(2) New information regarding a hazard in or near a confined space.

(3) An employee or authorized representative provides a reasonable basis for believing that a hazard determination is inadequate.

(b) If the contractor made a determination under § 1926.1204 that the confined space was subject to a hazard, the contractor must reassess the determinations, procedures, and equipment used to protect employees in or near a confined space if there is an indication that the measures taken may not protect employees. Such indications include, but are not limited to:

(1) A change in the configuration or use of, or the type of work conducted or materials used in, the confined space.

(2) New information regarding a hazard in or near a confined space.

(3) An employee or authorized representative provides a reasonable basis for believing that a hazard determination or protective measure is inadequate.

(4) An unauthorized entry into a PRCS.

(5) Detection of a hazard in or near a PRCS that is not addressed by the entry permit.

(6) Detection of a hazard level in or near a PRCS that exceeds the planned conditions specified in the entry permit.

(7) The occurrence, during an entry operation, of an injury, fatality or near-miss.

(c) If the contractor must reassess the confined space based on paragraphs (a) or (b) of this section, then the contractor must ensure that:

(1) All employees exit the confined space immediately.

(2) No employee reenters the space until the contractor:

(i) Identifies physical and atmospheric hazards in accordance with § 1926.1204(b).

(ii) Follows the classification procedures specified by § 1926.1206 (Classification and precautions).

(iii) Meets the accident-prevention and -protection requirements applicable to the space classification selected by the contractor before any employee reenters the space.

§ 1926.1208 Permit-required confined spaces.

(a) *Permit-required confined space (PRCS) classification requirements.* (1) A PRCS is a confined space that has any one of the following characteristics:

(i) A hazardous atmosphere; or

(ii) Inwardly converging, sloping, or tapering surfaces that could trap or asphyxiate an employee. For example, a space between walls that narrows towards the base (including, but not limited to, funnels and hoppers); or

(iii) In engulfment hazard or other physical hazard.

(2) The requirements for a confined space classified as a PRCS are:

(i) For each physical hazard that was identified using the procedures in § 1926.1204(b), the employer must determine an isolation method or a method of protecting employees from the physical hazard that meets applicable OSHA requirements.

(ii) For each atmospheric hazard that was identified using the procedures in § 1926.1205, the employer must determine an isolation method or a method for controlling the hazard at a safe level or protecting employees from the atmospheric hazard with personal protective equipment.

(b) *Planned conditions.* (1) Using the determinations made in paragraph (a)(2) of this section, the employer must define the conditions under which authorized entrants can work safely in the PRCS, including hazard levels and methods of employee protection (that is, ''planned conditions'').

(2) The employer must determine that, in the event the ventilation system stops working, the monitoring procedures will detect an increase in atmospheric hazard levels in sufficient time for the entrants to safely exit the PRCS.

§ 1926.1209 PRCS—initial tasks.

(a) *Notification and posting danger signs.* (1) The contractor must notify its employees that it anticipates will be in or near the PRCS and their authorized representative, and the controlling contractor, about the location of, and the hazards/dangers posed by, the PRCSs located at the job site.

(2) The employer must post a danger sign to warn employees about the PRCS. Posting signs at or near the entrances to the PRCS that read, ''Danger—Permit-Required Confined Space—Authorized Employees Only'' or ''Danger—Do Not Enter Without a Permit,'' or similar language, will meet this requirement. If the employer demonstrates that a sign is infeasible, then an equally effective means of warning employees must be used.

(b) *Prohibiting entry.* The employer must decide if employees will be authorized to enter the PRCS. Where no employees will be authorized to enter, the following steps must be taken:

(1) Use barriers to permanently close the PRCS.

(2) Post danger signs that comply with paragraph (a)(2) of this section.

(3) Inform the employees and the controlling contractor of the location of that PRCS and the steps used to prevent entry.

(c) *Limiting entry.* (1) Where one or more employees will be authorized to enter the PRCS, the employer must prevent the non-authorized employees from entering the PRCS by taking the following steps:

(i) Across the entrances to the PRCS, use barriers or high-visibility physical restrictions, such as warning lines with flags.

(ii) Post danger signs that comply with paragraph (a)(2) of this section.

(iii) Inform the non-authorized employees and the controlling contractor of the location of, and hazards in, the PRCS, and the steps used to prevent unauthorized entry.

(2) Only employees who are ''authorized entrants'' are to be permitted to enter the PRCS.

(d) *Training.* (1) The employer must ensure that employees the employer anticipates will be in or near a PRCS (*i.e.*, employees who have duties specified by the applicable sections of this standard (entry supervisors, attendants, authorized entrants, and rescue-service employees)) acquire the knowledge and skills necessary for the safe performance of these duties. This training must result in an understanding of the hazards in the PRCS and the methods used to isolate, control or in other ways protect employees from these hazards.

(2) *Hazards of rescue.* The employer must train employees the employer anticipates will be in or near a PRCS who are not authorized to perform entry rescues about the dangers of attempting such rescues.

(3) *When to train under paragraphs (d)(1) and (d)(2) of this section:*

(i) Prior to initial entry into the PRCS.

(ii) If an employee the employer anticipates will be in or near a PRCS receives a change in assigned duties that relate to maintaining the planned conditions, any additional training necessitated by the change in duties must be completed before the employee re-enters the PRCS.

(iii) If a new hazard is introduced or occurs in the PRCS for which the employees the employer anticipates will be in or near a PRCS received no previous training, the authorized entrant must exit the space immediately and this training must be completed before resuming work in the space.

(4) The employer must ensure that the employees the employer anticipates will be in or near a PRCS can demonstrate proficiency in the duties required by this standard, including new and revised PRCS procedures.

(5) *Training records.* The employer must maintain training records for each employee. The training records must:

(i) Show that the employee accomplished the training requirements specified above in paragraphs (d)(1) through (d)(4) of this section.

(ii) Contain the employee's name, names of the trainers, and dates of the training.

(6) *Retraining.* Before employees continue with PRCS entry operations, the employer must train those employees it has reason to believe:

(i) Deviated from the PRCS entry procedures specified in §§ 1926.1209 through 1926.1214 of this standard; or

(ii) Do not have adequate knowledge and skills of PRCS entry procedures.

(e) *Rescue preparations.* Before any authorized entrant enters the PRCS, the employer must complete arrangements for providing for the rescue of these employees in accordance with § 1926.1213.

(f) *Safe termination procedures.* For each PRCS that authorized entrants will enter, the employer must develop procedures for safely terminating entry operations under both planned and emergency conditions.

§ 1926.1210 PRCS—preparing for entry.

Before entry, the employer must ensure that the following requirements are met:

(a) *Entry permit.* Prepare and post an entry permit where the authorized entrants enter the PRCS. Entry permit requirements are in § 1926.1214.

(b) *Removing entrance covers.* Prior to removing an entrance cover, eliminate any condition (for example, high pressure in the PRCS) that makes it unsafe to remove the cover.

(c) *Guarding holes and openings.* Outside the space, when necessary to protect employees working in and around the space, promptly: use guardrails or covers as specified in 29 CFR 1926.502 (Fall protection systems criteria and practices) of subpart M (Fall Protection) to guard holes and openings into the space from falling individuals and objects and institute measures to control pedestrian and vehicle traffic in accordance with the requirements in 29 CFR part 1926 subpart G (Signs, Signals, and Barricades).

(d) *Safe access.* Ensure that a safe method of entering and exiting a PRCS (such as stairways or ladders) is provided and used, and that it meets applicable OSHA requirements. 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 prior to use.

(e) *Entry supervisor.* (1) Assign an entry supervisor to supervise PRCS entry operations.

(2) *Entry supervisor requirements.* Ensure that each entry supervisor:

(i) Knows the physical and atmospheric hazards in the PRCS.

(ii) Knows how these hazards enter the body (such as skin contact and inhalation), signs and symptoms, and characteristic effects (such as behavioral effects) of exposure to these hazards.

(iii) Verifies that the conditions in the PRCS are within the planned conditions as defined under § 1926.1208(b) and specified in the entry permit by checking the appropriate entries in the entry permit, verifying completion of the atmospheric testing specified in the entry permit, and verifying that any other procedures and equipment specified in the entry permit are in place.

(iv) Verifies that the rescue service is available and that the means for summoning the rescue service works.

(v) Signs the entry permit to authorize entry into the PRCS.

(vi) Terminates PRCS entry operations in accordance with § 1926.1212(b) (Supervisor requirements) of this standard.

(f) *Attendant.* (1) Assign an attendant to be stationed outside the PRCS for the duration of the entry operation.

(2) *Hazard awareness.* Ensure that each attendant knows:

(i) The physical and atmospheric hazards in the PRCS.

(ii) How the hazards enter the body (such as skin contact and inhalation), signs and symptoms, and characteristic effects (including behavioral effects) of exposure to these hazards.

(3) *Attending multiple PRCSs.* If a single attendant is assigned to monitor multiple PRCSs, then ensure that:

(i) The attendant can fully perform the duties specified by § 1926.1211(f) (Attendant duties).

(ii) The equipment and procedures are provided to enable an attendant to respond to an emergency affecting any of the PRCSs the attendant is monitoring.

(g) *Authorized entrant.* (1) Designate which employee(s) are authorized entrants in the PRCS.

(2) *Hazard awareness.* Ensure that each authorized entrant knows:

(i) The physical and atmospheric hazards in the PRCS.

(ii) How the hazards enter the body (such as skin contact and inhalation), signs and symptoms, and characteristic effects (such as behavioral effects) of exposure to these hazards.

(h) *Criteria for assigning simultaneous roles.* (1) Employees are prohibited from serving as authorized entrants and attendants simultaneously.

(2) Authorized entrants may serve simultaneously as entry supervisors only if the employer ensures that they meet the requirements of both §§ 1926.1210(e) (Entry supervisor) and 1926.1210(g) (Authorized entrant).

(3) Attendants may serve simultaneously as entry supervisors only if the employer ensures that they meet the requirements of both §§ 1926.1210(e) (Entry supervisor) and 1926.1210(f) (Attendant).

(i) [Reserved]

(j) *Equipment.* In addition to the equipment required in § 1926.1218, the employer shall provide and ensure the use of the following equipment:

(1) Communication equipment for compliance with paragraphs (f)(5), (g)(2) (entrant-to-attendant communication requirements), and (h)(2) (Entry rescue—when to summon) of § 1926.1211.

(2) Lighting equipment needed to comply with 29 CFR 1926.56 (Illumination).

(3) Railings, covers, or barriers as required in §§ 1926.1209(b) (Prohibiting entry) and (c) (Limiting entry), and 1926.1210(c) (Guarding holes and openings).

(4) Equipment, such as ladders, needed for safe entry to and exit from a PRCS.

(5) Rescue and emergency equipment required to comply with § 1926.1213 (PRCS—rescue criteria), unless a rescue service provides its own rescue and emergency equipment.

(6) Any other equipment necessary for safe rescue operations in or near PRCSs.

(k) Document the determinations made and the actions taken in paragraphs (b) through (j) of this section by entering the information in the entry permit as required in § 1926.1214(a).

§ 1926.1211 PRCS—during entry.

While any authorized entrant is in a PRCS, the employer must ensure that the following requirements are met:

(a) The physical and atmospheric hazards remain isolated or controlled, or the employees remain protected from them, in accordance with the determinations made in § 1926.1208 (Permit-required confined spaces).

(b) *Monitoring.* Atmospheric hazards are monitored as specified in § 1926.1205 (Atmospheric testing and monitoring). Monitoring must be continuous 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.

(c) The procedures and monitoring results in paragraphs (a) and (b) are documented by entering the information in the entry permit as stated in § 1926.1214(a).

(d) *Entry supervisor duties.* Each entry supervisor:

(1) Ensures that entry conditions are being properly monitored and that these conditions remain consistent with the planned conditions specified in the entry permit.

(2) Removes individuals who are not authorized entrants who enter, or who attempt to enter, a PRCS.

(3) *Evacuation.* Orders authorized entrants to exit the PRCS as quickly as possible if required under either paragraph (d)(3)(i) or (d)(3)(ii) of this section, as follows:

(i) The entry supervisor detects or learns of any of the following:

(A) An unplanned condition.

(B) Any sign, symptom, unusual behavior or other effect of a hazard in an authorized entrant.

(C) An evacuation alarm.

(D) A situation outside the PRCS that could endanger the authorized entrants.

(ii) The entry supervisor cannot effectively and safely perform all the duties required by § 1926.1210(e)(2) (Entry supervisor requirements) and cannot be immediately replaced.

(4) *Entry permit cancellation.* Cancels the entry permit upon the occurrence of any of the following:

(i) An evacuation is required under this section.

(ii) Any of the indications that require a reassessment under § 1926.1207(b).

(iii) The entry operations covered by the entry permit have been completed.

(e) *Transfer of supervisory responsibilities.* If responsibility for the entry operation is transferred to another entry supervisor, then the new entry supervisor must:

(1) Meet the requirements specified above in § 1926.1210(e)(2) (Entry supervisor requirements).

(2) Review the entry permit and verify that entry conditions are consistent with the planned conditions specified in the entry permit.

(3) Sign the entry permit.

(f) *Attendant duties.* Each attendant:

(1) Continuously maintains an accurate count of authorized entrants who are in the PRCS.

(2) Has a means to accurately identify authorized entrants who are in the PRCS (§ 1926.1214(a)(2)(ii)(A) specifies the means for doing so).

(3) Remains at a location outside the PRCS that allows the attendant to fully perform the duties and responsibilities specified in this section and does so until properly relieved by another attendant.

(4) Monitors entry conditions to determine if they are consistent with the entry permit.

(5) Communicates with authorized entrants as necessary to monitor entrant status and to alert entrants of the need to evacuate the PRCS as specified below in paragraph (g)(2) of this section.

(6) Monitors activities inside and outside the PRCS to determine if the PRCS remains safe for authorized entrants and informs the rescue service whenever a non-entry or entry rescue is required.

(7) Informs the employer if a non-entry or entry rescue begins or an authorized entrant may need medical aid or assistance in escaping from the PRCS.

(8) Performs non-entry rescue as required in paragraph (h)(1) of this section and in accordance with § 1926.1213(a) (Non-entry rescue criteria).

(9) Does not enter a PRCS for rescue purposes unless the employer: provides the attendant with the appropriate training and equipment specified below in § 1926.1213(c) (Protecting and training rescue-service employees), and ensures that another attendant properly relieves the attendant prior to performing the entry rescue.

(10) Performs no duties that could interfere with the primary duty to monitor and protect the authorized entrants.

(11) Warns any individual who is not an authorized entrant, and who approaches a PRCS during entry operations, to stay away from the PRCS. If the individual enters the PRCS, the attendant must tell the individual to exit immediately, and inform the authorized entrants and entry supervisor of the unauthorized entry.

(12) *Evacuation.* Orders authorized entrants to exit the PRCS as quickly as possible if required under either paragraph (f)(12)(i) or (f)(12)(ii) of this section, as follows:

(i) The attendant detects or learns of any of the following:

(A) An unplanned condition.

(B) Any sign, symptom, unusual behavior or other effect of a hazard in an authorized entrant.

(C) An evacuation alarm.

(D) A situation outside the PRCS that could endanger the authorized entrants.

(ii) The attendant cannot effectively and safely perform all the duties required by this section and cannot immediately be replaced.

(g) *Authorized entrant duties.* During PRCS entry operations, each authorized entrant:

(1) Properly uses the retrieval equipment required below in paragraphs (a)(2) through (a)(4) of § 1926.1213 (requirements for non-entry retrieval systems).

(2) Communicates with the attendant as necessary so that the attendant can monitor the authorized entrant's status and alert the entrant of the need to evacuate the PRCS, as required above in paragraph (f)(5) of this section (requirements for attendant-to-authorized entrant communications).

(3) Informs the attendant of any sign, symptom, unusual behavior or other effect of a hazard.

(4) *Evacuation.* Exits from the PRCS as quickly as possible if either:

(i) The entry supervisor or the attendant orders the authorized entrant to evacuate the PRCS; or

(ii) The authorized entrant detects or learns of any of the following:

(A) An unplanned condition (for example, a new hazard) in or near the PRCS.

(B) Any sign, symptom, unusual behavior or other effect of a hazard.

(C) An evacuation alarm.

(h) *Rescue.* Non-entry rescue and entry rescue is provided as follows:

(1) *Non-entry rescue.*

(i) Provide non-entry rescue capability during the period that authorized entrants are in the PRCS that meets the requirements of § 1926.1213(a).

(ii) Except where the conditions specified in paragraph (h)(1)(iii) of this section are present, non-entry rescue must be initiated if required under paragraphs (h)(1)(ii)(A) or (h)(1)(ii)(B) of this section, as follows:

(A) There is a need to evacuate pursuant to paragraphs (d)(3), (f)(12), or (g)(4) of § 1926.1211 and the employee is unable to evacuate without assistance; or

(B) There is a reasonable probability that an employee may need immediate medical aid and is unable to exit the PRCS without assistance.

(iii) Non-entry rescue shall not be initiated if doing so would present a greater hazard to the employee than sole reliance on entry rescue (for example, where the configuration of the space would cause the retrieval lines to not work or result in greater injury to the employee than injury from waiting for entry rescue).

(2) *Entry rescue—when to summon.* Ensure that an entry rescue service has been summoned immediately if any of the following occurs:

(i) A non-entry rescue is initiated.

(ii) There is a need to evacuate pursuant to paragraphs (d)(3), (f)(12), or (g)(4) of § 1926.1211 and the employee is unable to evacuate without assistance.

(iii) There is a reasonable probability that an employee may need immediate medical aid and is unable to exit the PRCS without assistance.

(iv) Non-entry rescue is prohibited under conditions specified in § 1926.1211(h)(1)(iii).

§ 1926.1212 PRCS—terminating entry.

(a) The employer must implement procedures for safely terminating PRCS entry operations under both planned conditions and in an emergency.

(b) *Entry supervisor requirements.* The employer must ensure that an entry supervisor terminates entry and cancels the entry permit upon expiration of the entry permit, completion of the entry operations covered by the permit, any of the indications that require reassessment under § 1926.1207(b), or an evacuation required under § 1926.1211(d)(3), whichever occurs first.

Note to § 1926.1212(b): After entry is terminated, no employees can reenter the space until the employer: Identifies the physical and atmospheric hazards in accordance with § 1926.1204(b); follows the classification procedures specified by § 1926.1206 (Classification and precautions); and meets the accident-prevention and -protection requirements applicable to the space classification selected by the employer.

§ 1926.1213 PRCS—rescue criteria.

(a) *Non-entry rescue criteria.* For non-entry rescue, the employer must meet the following requirements:

(1) Ensure that attendants and employees designated to perform non-entry rescue acquire the knowledge and skills necessary for the safe performance of non-entry rescue.

(2) Use a retrieval system that:

(i) Is available as soon as needed by the attendant or other rescue service.

(ii) Is designed and manufactured for personnel retrieval; however, a job-made hoisting system is permissible if it is approved for personnel hoisting by a registered professional engineer prior to use.

(iii) The attendant or other rescue service can operate effectively.

(iv) Has a chest or full-body harness and a retrieval line. The retrieval line must have:

(A) One end attached in a manner that allows the attendant or other rescue service to remove the entrant from the PRCS without causing further injury.

(B) The other end attached to a mechanical retrieval device or fixed anchor point outside the PRCS in a manner that allows rescue to begin as soon as the attendant or other rescue service detects or learns of the need for rescue. Movable equipment (for example, earth-moving equipment), that is sufficiently heavy to serve as an anchor point, may be used for this purpose only if effectively locked out or tagged out.

(3) For retrievals involving vertical distances over 5 feet (1.52 m), a mechanical retrieval device must be provided and used. This device must not be used for entry into the PRCS unless it is designed for that purpose.

(4) Equipment that is unsuitable for retrieval, including the following equipment, must not be used:

(i) Equipment that increases the overall risk of entry or impedes rescue of an authorized entrant.

(ii) Retrieval lines that have a reasonable probability of becoming entangled with the retrieval lines used by other authorized entrants, or will not work due to the internal configuration of the PRCS (see § 1926.1211(h)(1)(iii)).

(iii) Wristlets or ankle straps used as attachment points for retrieval lines, unless the employer can demonstrate that: Use of a harness is infeasible or creates a greater hazard for safe rescue than wristlets or ankle straps; and wristlets or ankle straps are the safest alternative available.

(5) Prior to beginning entry operations, ensure that the employees designated to perform non-entry rescue (including attendants, if applicable) have access to the PRCS the authorized entrant will enter or to a Simulated PRCS, so it can develop appropriate rescue plans and practice rescue operations.

(b) *Entry rescue: Preparing rescue-service employees.* (1) The employer must ensure that the entry rescue service can effectively perform entry-rescue tasks in the PRCSs the authorized entrant(s) will enter. Accordingly, the employer must ensure that the entry rescue service:

(i) Can respond to a rescue summons in a timely manner. Timeliness depends on how quickly serious physical harm may result from the physical or atmospheric hazards in the PRCS.

(ii) Prior to beginning entry operations, has access to the PRCS the authorized entrants will enter or to a Simulated PRCS so the entry rescue service can develop appropriate rescue plans and practice rescue operations.

(2) Prior to the entry rescue service entering a PRCS for any purpose, the employer must inform them of the physical and atmospheric hazards they are likely to encounter when performing rescue operations in the PRCS, and other relevant information actually known by the employer.

(c) *Protecting and training entry rescue-service employees.* Employers of entry rescue-service employees must:

(1) Provide them with the personal protective equipment (PPE) and rescue equipment (including retrieval lines if necessary) required to make safe rescues.

(2) Train them in the proper use of the PPE and rescue equipment.

(3) Train them to perform assigned rescue duties.

(4) Train them in basic first aid and in cardiopulmonary resuscitation (CPR).

(5) Ensure that at least one member of the entry rescue service who participates in the onsite rescue operations holds current certification in first aid (including CPR).

(6) Ensure that the entry rescue-service employees practice rescue operations at least once prior to beginning entry operations and at least once every 12 months thereafter. This practice must involve:

(i) Removing dummies/mannequins or individuals from the PRCS the authorized entrants will enter, or from a Simulated PRCS. In doing so, comply with the requirements of this standard that apply to the confined space used for this purpose.

(ii) Using the same PPE, retrieval, and rescue equipment they would use to perform retrieval or rescue operations in the PRCS.

(d) *Exemption from practice.* An employer is exempt from the requirement to practice rescue operations if the entry rescue-service employees properly performed a rescue operation during the last 12 months in the same PRCS the authorized entrant will enter, or in a similar PRCS.

§ 1926.1214 PRCS—entry permits.

(a) *Contents.* Employers must ensure that the entry permits for PRCSs include the following:

(1) *General information*—(i) An identification of the PRCS to be entered.

(ii) The purpose (including the tasks/job) of entering the PRCS.

(iii) The effective date and the authorized duration of the entry permit. The duration of the permit is prohibited from exceeding the time required to complete the tasks/job identified in paragraph (a)(1)(ii) of this section.

(2) *Planned conditions for entry*—(i) *Hazard information.*

(A) Identify the physical and atmospheric hazards the PRCS is subject to (that is, all physical and atmospheric hazards, regardless of how they have been isolated or controlled, or how authorized entrants are protected from them) consistent with the requirements of §§ 1926.1206 (Classifications and precautions) and 1926.1208(a) (Permit-required confined space (PRCS) classification requirements).

(B) State the methods used to isolate or control hazards, or used to protect authorized entrants from hazards in the PRCS. This information must be consistent with the requirements specified in §§ 1926.1208(a) (Permit-required confined space (PRCS) classification requirements) and 1926.1210 (PRCS—preparing for entry), and must include, as applicable, the methods used to isolate or control the hazards, the type of personal protective equipment provided, the methods used to monitor each hazard (including the use of early-warning systems, if required by § 1926.1215), and how frequently each hazard is to be monitored.

(C) State the atmospheric-testing and -monitoring results obtained in §§ 1926.1204(b) (requirements for determining confined-space hazards), 1926.1211 (PRCS—during entry), and 1926.1215(a)(1) (requirements for continuous atmospheric monitoring of CS–PRCSs). Include the type and brand of the equipment used, the names and signature/initials of the individuals who performed these functions, as well as the date and time (or time period, for continuous monitoring) they performed them.

(D) List the conditions under which authorized entrants can work safely in the PRCS, including hazard levels and methods of employee protection, consistent with the requirements specified in § 1926.1208(b) (Planned conditions). In addition, when applicable, the determinations made in paragraph (b)(2) of § 1926.1208.

(ii) *Personnel, equipment, and procedures.*

(A) Identify by name (or other effective identifier) each authorized entrant who is currently in the PRCS. This requirement can be met by referring in the entry permit to a system, such as a roster or tracking system, used to keep track of who is currently in the PRCS.

(B) List the names of the current attendants.

(C) Clearly indicate the name of the current entry supervisor and the entry supervisor who originally authorized entry into the PRCS. In addition, include the signatures or initials of both of these individuals.

(D) Identify the methods used during entry operations to maintain contact between authorized entrants and attendants.

(E) Identify the rescue service that will rescue workers during emergencies, and the methods for summoning this service, including the communication equipment to use and the telephone numbers to call.

(F) Identify the equipment needed (see §§ 1926.1210(j) (Equipment) and 1926.1218 (Equipment), and, for CS–PRCSs, § 1926.1215(b)).

(3) *Other information*—(i) Identify additional permits issued to perform authorized work in the PRCS (for example, hot-work permits).

(ii) Provide any other information necessary to ensure employee safety in or near the PRCS, including notations of any problems encountered.

Note to § 1926.1214(a): Appendix B to this subpart provides an example of an entry permit.

(b) *Annual PRCS review.* The employer must review, at least annually, PRCS entries made during the previous 12 months to determine if there are deficiencies in the employer's entry operation procedures. For this review, the employer must use:

(1) Canceled entry permits retained as required by § 1926.1219(b) (Retaining entry permits).

(2) Any other information retained regarding entry operations.

(c) *Retaining entry permits.* Entry permits must be kept in accordance with the requirements of § 1926.1219(b).

(d) *Canceling entry permits.* Entry permits must be cancelled in accordance with § 1926.1211(d)(4).

§ 1926.1215 Continuous System—PRCS.

(a) For a Continuous System-PRCS (CS–PRCS), the employer must complete all requirements in §§ 1926.1208 through 1926.1214, as well as:

(1) Monitor continuously for atmospheric hazards; employers may use periodic monitoring for monitoring an atmospheric hazard if they can demonstrate that equipment for continuously monitoring that hazard is not commercially available.

(2) Monitor continuously for non-isolated engulfment hazards using an early-warning system. The system must alert authorized entrants and attendants in sufficient time for the authorized entrants to safely exit the CS–PRCS.

(b) *Equipment.* In addition to the equipment required in §§ 1926.1210(j) and 1926.1218, the employer shall also provide:

(1) Equipment necessary for monitoring of atmospheric hazards.

(2) An early-warning system for continuous monitoring of non-isolated engulfment hazards. The system must alert authorized entrants and attendants in sufficient time for the authorized entrants to safely exit the CS–PRCS.

§ 1926.1216 Controlled-atmosphere confined spaces—requirements for classification and accident prevention and protection.

(a) The requirements for classifying a Controlled-Atmosphere Confined Space (CACS) are:

(1) For each physical hazard that was identified using the procedures specified in § 1926.1204(b), determine and implement an isolation method.

(2) Ventilation.

(i) Test the atmosphere while using ventilation equipment to verify that ventilation alone is sufficient to control these atmospheric hazards at safe levels. Ventilation must consist of continuous forced-air mechanical systems that meet the requirements of 29 CFR 1926.57 (Ventilation).

(ii) Determine that, in the event the ventilation system stops working, the monitoring procedures will detect an increase in atmospheric hazard levels in sufficient time for the entrants to safely exit the CACS.

Note to § 1926.1216(a)(2)(ii): The following paragraph requires documentation of this determination.

(3) Document that all physical hazards have been isolated and that ventilation alone is sufficient to control the atmospheric hazards. The documentation must contain: The location of the CACS, identity of the physical hazards, methods for isolating the physical hazards, date and time the

physical hazards were isolated and name and signature/initials of the individual who completed the isolation work, the identity and safe levels of the atmospheric hazards, methods for controlling the atmospheric hazards, atmospheric-testing results, date and time of atmospheric testing and the name and signature/initials of the individual who completed the atmospheric testing, the determinations made under paragraph (a)(2)(ii) of this section, name and signature/initials of the person who completed this document, and the date and time the document was completed. The documentation shall be made available by posting or other methods to each employee entering the space and to that employee's authorized representative.

Note to § 1926.1216(a)(3): Appendix B to this subpart provides an example of a verification document.

(b) *Accident-prevention and protection requirements*. The employer must:

(1) *Notification and posting danger signs*.

(i) Notify the employees that the employer anticipates will be in or near the CACS and their authorized representatives about the location of, and the dangers posed by, all CACSs located at the job site.

(ii) Post danger signs to notify employees about a CACS. Posting signs near the outside entrances to the CACS that read, ''Danger—Controlled-Atmosphere Confined Space—Authorized Employees Only,'' or similar language, will meet this requirement. If the employer demonstrates that a sign is infeasible, then it must use an equally effective means of warning employees.

(2) *Training*. (i) Ensure that each of its employees who enter a CACS acquires the knowledge and skills necessary for the safe performance of CACS entry operations. This training must result in an understanding of the hazards in the CACS that the employee will enter, the methods used to isolate or control these hazards, and recognition of signs, symptoms, and characteristic effect (such as behavioral effects) of exposure to these hazards.

(ii) *Hazards of rescue*. Train the employees that the employer anticipates will be in or near the CACS and not authorized to perform entry rescues about the dangers of such rescues.

(iii) *When to train under paragraphs (b)(2)(i) and (b)(2)(ii) of this section:*

(A) Prior to the employee's initial entry.

(B) If an employee the employer anticipates will be in or near a CACS receives a change in assigned tasks and additional training is necessitated by the change in tasks, any additional training that relates to maintaining the conditions necessary to comply with the requirements of the CACS classification must be completed before the employee enters the CACS to perform these newly assigned tasks.

(C) If a new hazard is introduced or occurs in the CACS for which the employee received no previous training, the employee must exit the space and complete the training before resuming work in the space.

(iv) Ensure that the employee can demonstrate proficiency in the duties required by this standard, including new and revised procedures.

(v) *Training records*. Maintain training records for each employee. The training records must:

(A) Show that the employee accomplished the training requirements specified in paragraph (b)(2) of this section before entering a CACS.

(B) Contain the employee's name, names of the trainers, and dates of the training.

(c) *General preparations for entry*. Before any employee enters a CACS, the employer must:

(1) Prior to removing an entrance cover, eliminate any condition (for example, high pressure in the space) that makes it unsafe to remove the entrance cover.

(2) Outside the space, when necessary to protect employees working in and around the space, promptly: Use guardrails or covers as specified in 29 CFR 1926.502 (Fall protection systems criteria and practices) of subpart M (Fall Protection) to guard holes and openings into the space from falling individuals and objects and institute measures to control pedestrian and vehicle traffic in accordance with the requirements in 29 CFR Part 1926 subpart G (Signs, Signals, and Barricades).

(3) Ensure that a safe method of entering and exiting a CACS (such as stairways or ladders) is provided and used, and that it meets applicable OSHA requirements. 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 prior to use.

(d) *Before entry*. Immediately before any employee enters a CACS, the employer must:

(1) Ensure that the physical hazards identified in § 1926.1204(b) remain isolated.

(2) Test for atmospheric hazards as specified in § 1926.1205(a) to ensure that the ventilation is controlling the atmospheric hazards at safe levels.

(3) Control the atmospheric hazards at safe levels using ventilation alone. Ventilation must consist of continuous forced-air mechanical systems that meet the requirements of 29 CFR 1926.57 (Ventilation).

(4) Document that the physical hazards are isolated and the atmospheric hazards are being controlled. The documentation must contain: The location of the CACS, identity of the physical hazards, methods for isolating the physical hazards, date and time of determining that physical hazards remain isolated and the name and signature/initials of the individual who made this determination, identity and safe level of atmospheric hazards, methods for controlling the atmospheric hazards, atmospheric-testing results, date and time of atmospheric testing and the name and signature/initials of the individual who completed the atmospheric testing, name and signature/initials of the individual who completed this document, and the date and time the document was completed. The documentation shall be made available by posting or other methods to each employee entering the space and to that employee's authorized representative.

(e) *During entry*. While any employee is in a CACS, the employer must:

(1) Ensure that the physical hazards identified above in § 1926.1204(b) remain isolated.

(2) Ensure that ventilation alone is controlling atmospheric hazards at safe levels by monitoring for atmospheric hazards as specified above in § 1926.1205(a) (requirements for atmospheric testing and monitoring). Monitoring must be continuous unless the employer can demonstrate that the equipment for continuously monitoring a hazard is not commercially available or periodic monitoring is sufficient. Where periodic monitoring is used, it must be of sufficient frequency to ensure that atmospheric hazards are being controlled at safe levels.

(3) Document the determinations made above in paragraphs (e)(1) and (e)(2) of this section by completing a written verification that contains: The location of the CACS, identity of the physical hazards, methods for isolating the physical hazards, date and time of determining that physical hazards remain isolated and the name and signature/initials of the individual who made this determination, identity and safe level of atmospheric hazards, methods for controlling the atmospheric hazards, atmospheric-monitoring

results, date and time of atmospheric monitoring and the name and signature/initials of the individual who completed the atmospheric monitoring, name and signature/initials of the individual who completed this document, and the date and time the document was completed. The documentation shall be made available by posting or other methods to each employee entering the space and to that employee's authorized representative.

(f) *Emergencies*. In the event an emergency occurs during entry operations, including the presence of a non-isolated physical hazard or atmospheric hazard at unsafe levels, then the employer must:

(1) Ensure that the employees exit the CACS immediately.

(2) Identify the physical and atmospheric hazards in accordance with § 1926.1204(b).

(3) Using the information obtained in the preceding provision, follow the classification procedures specified by § 1926.1206 (Classification and precautions), and meet the accident-prevention and -protection requirements applicable to the space classification selected by the employer before any employee reenters the space.

§ 1926.1217 Isolated hazard confined spaces—requirements for classification and accident prevention and protection.

(a) The requirements for classifying a confined space as an Isolated-Hazard Confined Space (IHCS) are:

(1) For each physical hazard that was identified using the procedures in § 1926.1204(b), determine and implement an isolation method.

(2) For each atmospheric hazard that was identified using the procedures in § 1926.1205(a), determine and implement an isolation method.

(3) The employer must accomplish the isolation of the hazards in paragraphs (a)(1) and (a)(2) of this section without entering the IHCS, unless it can demonstrate that this is infeasible. If it is infeasible to do this work without entering the IHCS, then the employer must follow the requirements for a PRCS (§§ 1926.1208 through 1926.1214) and, if applicable, for a CS–PRCS (§ 1926.1215) to protect employees entering the space to do this work.

(4) Document that isolation of all hazards has been accomplished. The documentation must contain: The location of the IHCS, identity of the physical hazards, methods for isolating the physical hazards, date and time the physical hazards were isolated and name and signature/initials of the individual who completed the isolation work, the identity of atmospheric hazards, methods for isolating the atmospheric hazards, the date and time the atmospheric hazards were isolated and the name and signature/initials of the individual who completed the isolation work, name and signature/initials of the individual who completed this document, and the date and time the document was completed. The documentation shall be made available by posting or other methods to each employee entering the space and to that employee's authorized representative.

(b) *Training*. Before any employee enters an IHCS, the employer must:

(1) Ensure that the employee acquires the knowledge and skills necessary to recognize signs, symptoms, and characteristic effects (such as behavioral effects) of exposure to these hazards. This training must also result in an understanding of the methods used to isolate these hazards.

(2) *Hazards of rescue*. Train employees the employer anticipates will be in or near the IHCS and not authorized to perform entry rescues about the dangers of attempting such rescues.

Note to § 1926.1217(b): No documentation is required for this training.

(c) *General preparations for entry*. Before any employee enters an IHCS, the employer must:

(1) Prior to removing an entrance cover, eliminate any condition (for example, high pressure in the space) that makes it unsafe to remove the entrance cover.

(2) Outside the space, when necessary to protect employees working in and around the space, promptly: Use guardrails or covers as specified in 29 CFR 1926.502 (Fall protection systems criteria and practices) of subpart M (Fall Protection) to guard holes and openings into the space from falling individuals and objects and institute measures to control pedestrian and vehicle traffic in accordance with the requirements in 29 CFR part 1926 subpart G (Signs, Signals, and Barricades).

(3) Ensure that a safe method of entering and exiting an IHCS (such as stairways or ladders) is provided and used, and that it meets applicable OSHA requirements. 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 prior to use.

(d) *Before entry*. Before any employee enters an IHCS, the following must be met:

(1) Ensure that the physical hazards identified above in § 1926.1217(a)(1) (requirements for isolating physical hazards) are isolated.

(2) Ensure through testing that the atmospheric hazards identified above in paragraph (a)(2) of this section are isolated.

(3) Document the determinations made and the actions taken above in paragraphs (d)(1) and (d)(2) of this section by completing a written verification that contains: The location of the IHCS, identity of the physical hazards, methods for isolating the physical hazards, date and time the physical hazards were isolated, date and time of determining that physical hazards remain isolated and the name and signature/initials of the individual who made this determination, identity of the atmospheric hazards, methods for isolating the atmospheric hazards, date and time the atmospheric hazards were isolated, date and time of determining that atmospheric hazards remain isolated and the name and signature/initials of the individual who made this determination, name and signature/initials of the individual who completed this document, and date and time the document was completed. The documentation shall be made available by posting or other methods to employees entering the space and to the employees' authorized representative.

(e) *During entry*—(1) *Hazard isolation*. Once any employee enters an IHCS, the employer must ensure that the physical and atmospheric hazards identified above in § 1926.1217(a) (requirements for classifying IHCSs) remain isolated.

(2) *Emergencies*. In the event an emergency occurs during entry operations, including the presence of a non-isolated physical or atmospheric hazard, then the employer must:

(i) Ensure that the employees exit the IHCS immediately.

(ii) Identify the physical and atmospheric hazards in accordance with § 1926.1204(b).

(iii) Using the information obtained in the preceding provision, follow the classification procedures specified by § 1926.1206 (Classification and precautions), and meet the accident-prevention and -protection requirements applicable to the space classification selected by the employer before any employee reenters the space.

§ 1926.1218 Equipment.

(a) The employer must provide and ensure the use of the following equipment:

(1) Atmospheric-testing and -monitoring equipment needed to comply with this standard.

(2) Forced-air mechanical ventilation equipment where needed to meet the requirements of this standard.

(3) Personal protective equipment, including respirators, if needed to comply with this standard. If employees use respirators, then the respirator requirements in 29 CFR 1926.103 (Respiratory protection) must be met.

(4) Any other equipment necessary for safe confined space operations.

Note to § 1926.1218(a): There are additional equipment requirements for PRCSs (§ 1926.1210(j)) and for C–PRCSs (§ 1926.1215(b)).

(b) *Equipment maintenance, calibration, and use.* The employer shall ensure that all equipment needed to comply with this standard is maintained, calibrated, and used as specified by:

(1) Applicable OSHA requirements.

(2) In the absence of applicable OSHA requirements, in accordance with:

(i) The manufacturer's instructions; or

(ii) If manufacturers' instructions are not available, the recommendations of a qualified individual as defined by 29 CFR 1926.32(m).

§ 1926.1219 Records.

(a) *Copy of this standard.* For sites where there is a confined space, the employer must maintain a copy of this standard at the site. Alternatively, the employer may maintain a copy of a written confined space program at the site that incorporates the requirements of this standard.

(b) *Retaining entry permits.* The employer must retain entry permits for at least one year from the date the permit is cancelled.

Note to § 1926.1219(b): With regard to retention and access to employee exposure records, the employer must comply with the requirements of 29 CFR 1910.1020 (Access to employee exposure and medical records), which are made applicable to construction by 29 CFR 1926.33.

(c) The employer must maintain training records, as specified in §§ 1926.1209(d)(5) (PRCSs) and 1926.1216(b)(2)(v) (CACSs), for the period of time the employee is employed by them.

(d) The employer must maintain verification documents required in §§ 1926.1216(a)(3), (d)(4), and (e)(3) (CACSs) and 1926.1217(a)(4) and (c)(3) (IHCSs) until the work in the confined space is completed.

Note to § 1926.1219(d): With regard to retention and access to employee exposure records, the employer must comply with the requirements of 29 CFR 1910.1020 (Access to employee exposure and medical records), which are made applicable to construction by 29 CFR 1926.33.

(e) The employer must make the documents required to be retained in this standard available on request to the Secretary of Labor or the Secretary's designee.

Appendix A to Subpart AA of Part 1926—List of Confined-Space Requirements in Other Construction Standards That Supplement the Requirements of Subpart AA (Mandatory)

The construction standards listed below have confined-space requirements for the performance of specific activities and equipment. Employers must comply with these provisions, as well as this subpart.

Subpart D—Occupational Health and Environmental Controls

Process safety management requirements: §§ 1926.64(f)(4) and (j) HAZWOPER requirements: §§ 1926.65(b)(4)(ii)(I), (c) through (p), and (j)(9).

Subpart J—Welding and Cutting

§§ 1926.353(a), (b), (c), (d), and (e).

Subpart V—Power Distribution and Transmission

§§ 1926.956(a) and (b).

BILLING CODE 4510–26–P

APPENDIX B TO SUBPART AA OF PART 1926—SAMPLE ENTRY PERMIT FOR PRCSS AND CS-PRCSS AND SAMPLE VERIFICATION DOCUMENT FOR CACSS AND IHCSS (NON-MANDATORY)

Sample Entry Permit for PRCSs and CS-PRCSs

ENTRY PERMIT PSEUDO CONSTRUCTION CO.
GENERAL INFORMATION
Identity (e.g., location) of the space: 1500 K Street, northwest corner.
Purpose of entry: Replace communication cable in sewer line.
Duration of entry: First entry on January 22, 2007; complete work and terminate entry operations on January 26, 2007.
Identify the physical hazards in the space: (1) Engulfment—sewer water. (2) Electrical—communication cables.
Describe the methods for isolating or controlling the physical hazards, or used to protect authorized entrants: (1) Engulfment—Disconnect and lockout all sewer-system overflow pumps, and disconnect, blind, and lockout, all water lines, within 100 feet of the work area, including lateral lines. (2) Electrical—deenergize, tag, and ground all communication cables in work area. Use heavy duty, insulated work gloves for handling cables and conduits.
Identify the atmospheric hazards in the space (e.g., oxygen deficiency, flammable/explosive gases/vapors, others (including toxic particulates, gases, and vapors)): (1) Oxygen deficiency—possibility that oxygen level may be less than 19.5%. (2) Flammable/explosive gases/vapors—methane may be present. (2) Other—hydrogen sulfide may be present.
Describe the methods for isolating or controlling the atmospheric hazards, or used to protect authorized entrants: Space ventilation—mechanical ventilation systems set at 100% outside air. Where possible, open additional manholes to increase air circulation. Use portable blowers to augment natural ventilation if needed. Repeat atmospheric testing after ventilating the space for 10 mins.
Describe the determination made to show that if the ventilation system stops working, atmospheric hazards will remain at safe levels long enough for entrants to recognize the

ENTRY PERMIT
PSEUDO CONSTRUCTION CO.

problem and safely exit the space: Fully ventilated the unoccupied space and got non-detect readings for methane and hydrogen sulfide. After securing the mechanical ventilation system, ports, and portable blowers, found that both methane and hydrogen sulfide reached maximum limits in two hours, which is well outside the 60-minute period used to monitor and record atmospheric-hazard values in the space.

PLANNED CONDITIONS

Safe conditions and/or monitoring determined for physical hazards:
(1) Water levels—pooling water level inside PRCS not to exceed 2 inches; survey PRCS every hour to assess pooling water level and seeping water from piping and sewer.
(2) Electrical—visually confirm every hour that electrical cables remain disconnected and tagged.
(3) Early-warning system—when alarm sounds, evacuate authorized employees immediately.

Safe levels of atmospheric hazards:

Hazard	Minimum limit	Maximum limit
Oxygen	19.50%	23.00%
Flammable gas/vapors (specify): (1) Methane	0% LEL	10% LEL
Others (specify): (1) Hydrogen sulfide	0 ppm	20 ppm

Atmospheric-testing/-monitoring results: (see attachment)

PERSONNEL

Current Entry Supervisor:
Name: ~~S. Smith~~ Signature/initial: /s/
Name: J. Jones Signature/initial: /s/
Name: Signature/initial:
Name: Signature/initial:
Name: Signature/initial:

Current Attendants:
Name: ~~J. James~~ Name:
Name: B. Bills Name:
Name: Name:
Name: Name:
Name: Name:

Authorized entrants: Refer to daily tracking roster for names of authorized entrants.

Identity of the rescue service: Washington, DC Fire and Rescue Service, Station 1. Each attendant and entry supervisor has cell phone pre-programmed with DC Fire and Rescue Service emergency hotline number (e.g., 202-123-4567).

Name and signature/initials of the entry supervisor who first verified this entry permit and authorized initial entry into this PRCS:

ENTRY PERMIT
PSEUDO CONSTRUCTION CO.

Name: S. Smith Signature/initials: /s/
Date and time of first verification: January 22, 2007; 7:00 AM

EQUIPMENT

Methods of communication between attendants and authorized entrants: Attendant and authorized entrants will use Type X walkie-talkies.

Equipment Needed:
(1) Lighting equipment: two explosion-proof and water-proof lights with 50-ft. extension cords.
(2) Ventilation: one explosion-proof blower and 15-foot of duct.
(3) Heating: N/A
(4) Guardrails, barriers, and covers: one portable guardrail and tent assembly.
(5)Controlled descent/retrieval systems: N/A
(6) Ladders: a 16-foot fixed ladder for access/egress.
(7) Scaffolding: N/A
(8) Early warning system: remote high-water-level detector and alarm installed 100 yards upstream from the work area in the inflow conduit.
(9) Emergency equipment: one emergency-retrieval system with adjustable harness and 50-foot of retrievable lanyard.
(10) Other: portable gas-powered electric generator with GFCI.

OTHER INFORMATION

Information not documented elsewhere on this permit (see section 1926.1210(k):
(1) Describe any condition making it unsafe to remove an entrance cover, and how the condition was eliminated: Determined that the entrance cover was vented, which eliminated the potential for a hazardous pressure conditions to exist in the space.
(2) Describe any actions taken to guard holes and openings into the space from falling individuals and objects: A portable guardrail system was erected around the entry point, in addition to placing warning cones to divert pedestrian traffic around the space.
(3) Describe the method used for entering and exiting the space: A 16-foot fixed ladder.

Additional information:
Hot-work permit issued for welding work.

ENTRY PERMIT CANCELLATION

Reason for cancellation: Completed work in PRCS.

Name and signature/initials of the individual who cancelled the entry permit:
Name: J. Jones Signature/initials: /s/
Date and time this entry permit was cancelled: January 26, 2007; 4:00 PM

ATTACHMENT
ATMOSPHERIC-TESTING/-MONITORING RESULTS
PSEUDO CONSTRUCTION CO.

INSTRUCTIONS: Use this attachment to document the results of, and the procedures involved in, collecting atmospheric-testing/-monitoring results. Note that providing information about the equipment used to collect atmospheric-testing/-monitoring samples is not mandatory, but would be useful in assuring that the samples are reliable. After documenting the information in the first sample about the type of confined space, purpose of the atmospheric testing/monitoring, type of monitoring used, and the equipment used to collect the samples, it is unnecessary to provide this information for subsequent samples unless the information changes.

SAMPLE #1:

Type of confined space:
___ PRCS
_X_ CS-PRCS

Purpose of the atmospheric testing/monitoring:
_X_ worksite evaluation (section 1926.1204(b))
___ during entry (section 1926.1211(b) or section 1926.1215(a)(1))

Type of atmospheric monitoring used: _X_ Periodic ___ Continuous
Note: If using continuous monitoring, a printed record may be substituted for this attachment if it contains the information listed below and conforms to the procedures described above in the instructions.

Equipment used to collect samples (nonmandatory):
Equipment type and brand: Gas monitor; Speedogas
Model #: 500 Z Calibration time and date: 4:00 PM, January 19, 2007

Name and signature/initials of individual collecting the sample:
Name: A. Ables Signature/initials: /s/
Date and time sample collected: 7:30 AM, January 22, 2007

Results: Oxygen = 20%; methane = 5% LEL; hydrogen sulfide = 5 ppm

SAMPLE #2:

Type of confined space:
___ PRCS
___ CS-PRCS

Purpose of the atmospheric monitoring:
___ worksite evaluation (section 1926.1204(b))
___ during entry (section 1926.1211(b) or section 1926.1215(a)(1))

ATTACHMENT
ATMOSPHERIC-TESTING/-MONITORING RESULTS
PSEUDO CONSTRUCTION CO.

Type of monitoring used: ___ Periodic ___ Continuous
Note: If using continuous monitoring, a printed record may be substituted for this attachment if it contains the information listed below and conforms to the procedures described above in the instructions.

Equipment used to collect samples (nonmandatory):
Equipment type and brand: _____
Model #: _____ Calibration time and date: _____

Name and signature/initials of individual collecting the sample:
Name: A. Ables Signature/initials: /s/
Date and time sample collected: 8:30 AM, January 22, 2007

Results: Oxygen = 20.5%; methane = 4.1% LEL; hydrogen sulfide = 3.6 ppm

(Add more pages as necessary)

Sample Verification Document for CACSs and IHCSs

VERIFICATION DOCUMENT
PSEUDO CONSTRUCTION CO.

INSTRUCTIONS

Complete this document when verifying (1) CACS determinations made for space classification (section 1926.1216(a)(3)), before entry (section 1926.1216(d)(4)), and during entry (section 1926.1216(e)(3)), or (2) IHCS determinations made for space classification (section 1926.1217(a)(4)) and before entry (1926.1217(d)(3)). It is necessary to provide the information under the sections of this document titled "General Information," "Physical Hazards," and "Atmospheric Hazards" only once, unless the information changes for one of the CACS or IHCS determinations; in that case, attach a new verification document to this document, add the changed information, and use the new document to continue the verification-documentation process. If the information remains the same from one determination to the next, it is only necessary to verify the information for the appropriate type of space and purpose listed under "Document Verification" near the end of this document.

GENERAL INFORMATION

VERIFICATION DOCUMENT
PSEUDO CONSTRUCTION CO.

Type of confined space covered by this document: X CACS __ IHCS

For both CACSs and IHCSs, provide the location of the confined space: 1500 K Street, northwest corner.

PHYSICAL HAZARDS

For both CACSs and IHCSs, identify the physical hazards in the space:
(1) Electrical—power line.

For both CACSs and IHCSs, describe the methods for isolating the physical hazards:
(1) Electrical—In accordance with 29 CFR subpart K, deenergize the line at the distribution panel and lock out and tag out the switch at the panel.

ATMOSPHERIC HAZARDS

For CACSs, identify the atmospheric hazards and the safe levels of these hazards; for IHCSs, identify the atmospheric hazards only:

Hazard	Minimum limit	Maximum limit
Oxygen	19.50%	23.00%
Flammable gas/vapors (specify): (1) Methane	0% LEL	10% LEL
Others (specify): (1) Hydrogen sulfide	0 ppm	20 ppm

For CACSs only, describe the methods for controlling the atmospheric hazards:
Space ventilation—mechanical ventilation systems set at 100% outside air. Where possible, open additional ports to increase air circulation. Use portable blowers to augment natural ventilation if needed. Repeat atmospheric testing after ventilating the space for 10 mins.

For CACSs only, atmospheric-testing/-monitoring results: (see attachment)

For CACS classification purposes only under section 1926.1216(a)(3), describe the determination made to show that if the ventilation system stops working, atmospheric hazards will remain at safe levels long enough for entrants to recognize the problem and safely exit the space: Fully ventilated the unoccupied space and got non-detect readings for methane and hydrogen sulfide. After securing the mechanical ventilation system, ports, and portable blowers, found that both methane and hydrogen sulfide reached maximum limits in two hours, which is well outside the 60-minute period used to monitor and record atmospheric-hazard values in the space.

For IHCSs only, describe the methods for isolating the atmospheric hazards:

DOCUMENT VERIFICATION
(Provide verifications only for the appropriate type of space and purpose)

VERIFICATION DOCUMENT
PSEUDO CONSTRUCTION CO.

Type of space: CACS
Purpose: Verify determinations made for space classification
(section 1926.1216(a)(3))

Name and signature/initials of the individual who completed isolating the physical hazards:
Name: S. Smith Signature/initials: /s/
Date and time isolation work completed: 6:30 AM, January 22, 2007

Name and signature/initials of the individual who completed this verification document:
Name: J. Jones Signature/initials: /s/
Date and time verification document completed: 7:00 AM, January 22, 2007

Type of space: CACS
Purpose: Verify determinations made before entry
(section 1926.1216(d)(4))

Name and signature/initials of the individual who determined the physical hazards remain isolated:
Name: _____ Signature/initials: _____
Date and time determination made: _____

Name and signature/initials of the individual who completed this verification document:
Name: _____ Signature/initials: _____
Date and time verification document completed: _____

Type of space: CACS
Purpose: Verify determinations made during entry

(section 1926.1216(e)(3))

Name and signature/initials of the individual who determined the physical hazards remain isolated:
Name: _____ Signature/initials: _____
Date and time determination made: _____

Name and signature/initials of the individual who completed this verification document:
Name: _____ Signature/initials: _____
Date and time verification document completed: _____

Type of space: IHCS
Purpose: Verify determinations made for space classification
(section 1926.1217(a)(4))

VERIFICATION DOCUMENT
PSEUDO CONSTRUCTION CO.

Name and signature/initials of the individual who completed isolating the physical hazards:
Name: _____ Signature/initials: _____
Date and time isolation work completed: _____

Name and signature/initials of the individual who completed isolating the atmospheric hazards:
Name: _____ Signature/initials: _____
Date and time isolation work completed: _____

Name and signature/initials of the individual who completed this verification document:
Name: _____ Signature/initials: _____
Date and time verification document completed: _____

Type of space: IHCS
Purpose: Verify determinations made before entry
(section 1926.1217(d)(3))

Name and signature/initials of the individual who determined the physical hazards remain isolated:
Name: _____ Signature/initials: _____
Date and time determination made: _____

Name and signature/initials of the individual who determined the atmospheric hazards remain isolated:
Name: _____ Signature/initials: _____
Date and time isolation work completed: _____

Name and signature/initials of the individual who completed this verification document:
Name: _____ Signature/initials: _____
Date and time verification document completed: _____

ATTACHMENT
ATMOSPHERIC-TESTING/-MONITORING RESULTS
PSEUDO CONSTRUCTION CO.

INSTRUCTIONS: Use this attachment to document the results of, and the procedures involved in, collecting atmospheric-testing/-monitoring results for (1) CACS determinations made for space classification (section 1926.1216(a)(3)), before entry

ATTACHMENT
ATMOSPHERIC-TESTING/-MONITORING RESULTS
PSEUDO CONSTRUCTION CO.

(section 1926.1216(d)(4)), and during entry (section 1926.1216(e)(3)), or (2) IHCS determinations made for space classification (section 1926.1217(a)(4)) and before entry (1926.1217(d)(3)). Note that providing information about the equipment used to collect atmospheric-testing/-monitoring samples is not mandatory, but would be useful in assuring that the samples are reliable. After documenting information in the first sample about the type of confined space, purpose of the atmospheric testing/monitoring, type of monitoring used, and the equipment used to collect the samples, it is unnecessary to provide this information for subsequent samples unless the information changes for one of the CACS or IHCS determinations.

SAMPLE #1:

Type of confined space:
_X_ CACS
___ IHCS

Purpose of the atmospheric testing/monitoring:
_X_ for classification
___ before entry
___ during entry

Type of monitoring used: _X_ Periodic ___ Continuous
Note: If using continuous monitoring, a printed record may be substituted for this attachment if it contains the information listed below and conforms to the procedures described above in the instructions.

Equipment used to collect samples (nonmandatory):
Equipment type and brand: Gas monitor; Speedogas
Model #: 500 Z Calibration time and date: 4:00 PM, January 19, 2007

Name and signature/initials of individual collecting the sample:
Name: A. Ables Signature/initials: /s/
Date and time sample collected: 7:30 AM, January 22, 2007

Results: Oxygen = 20%; methane = 5% LEL; hydrogen sulfide = 5 ppm

SAMPLE #2:

Type of confined space:
___ CACS
___ IHCS

Purpose of the atmospheric testing/monitoring:

ATTACHMENT
ATMOSPHERIC-TESTING/-MONITORING RESULTS
PSEUDO CONSTRUCTION CO.

___ for classification
___ before entry
___ during entry

Type of monitoring used: ___ Periodic ___ Continuous
Note: If using continuous monitoring, a printed record may be substituted for this attachment if it contains the information listed below and conforms to the procedures described above in the instructions.

Equipment used to collect samples (nonmandatory):
Equipment type and brand: _____
Model #: _____ Calibration time and date: _____

Name and signature/initials of individual collecting the sample:
Name: A. Ables Signature/initials: /s/
Date and time sample collected: 8:30 AM, January 22, 2007

Results: Oxygen = 20.5%; methane = 4.1% LEL; hydrogen sulfide = 3.6 ppm

(Add more pages as necessary)

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