STANDARDS PRESENTATION
TO
CALIFORNIA OCCUPATIONAL SAFETY AND HEALTH STANDARDS BOARD

PROPOSED STATE STANDARD,
TITLE 8, CHAPTER 4

Add New Article 37. Confined Spaces in Construction

Add New Section 1950 as follows:

§1950. Scope.
(a) This standard sets forth requirements for practices and procedures to protect employees engaged in construction activities at a worksite with one or more confined spaces, subject to the exceptions in subsection (b) of this section.
NOTE to Section 1950(a): Examples of locations where confined spaces may occur include, but are not limited to, the following: Bins; boilers; pits (such as elevator, escalator, pump, valve or other equipment); manholes (such as sewer, storm drain, electrical, communication, or other utility); tanks (such as fuel, chemical, water, or other liquid, solid or gas); incinerators; scrubbers; concrete pier columns; sewers; transformer vaults; heating, ventilation, and air-conditioning (HVAC) ducts; storm drains; water mains; precast concrete and other pre-formed manhole units; drilled shafts; enclosed beams; vessels; digesters; lift stations; cesspools; silos; air receivers; sludge gates; air preheaters; step up transformers; turbines; chillers; bag houses; and/or mixers/reactors.
(b) EXCEPTIONS: This standard does not apply to:
(1) Construction work regulated by Construction Safety Orders, Article 6, Excavations.
(2) Construction work regulated by the Tunnel Safety Orders.
(3) Construction work regulated by General Industry Safety Orders, Group 26, Diving Operations.
(4) Construction work regulated by the General Industry Safety Orders, Article 154, Pressurized Worksite Operations.
(c) Where this standard applies and there is a provision that addresses a confined space hazard in another applicable Title 8 standard, the employer shall comply with both that requirement and the applicable provisions of this standard.

NOTE: Authority cited: Section 142.3, Labor Code. Reference: Section 142.3, Labor Code.

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Add New Section 1951 as follows:

§1951. Definitions.
The following terms are defined for the purposes of this Article only:

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

Attendant means an individual stationed outside one or more permit spaces who assesses the status of authorized entrants and who shall perform the duties specified in Section 1958.

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

Barrier means a physical obstruction that blocks or limits access.

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

Competent person. See Section 1504 for the definition of competent person.

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

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

Controlling contractor - See Section 336.10(c), Controlling employer.
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 the closure of a line, duct, or pipe by closing and locking or tagging two in-line valves and by opening and locking or tagging a drain or vent valve in the line between the two closed valves.

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

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

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

Entry means the action by which any part of a person passes through an opening into a permit-required confined space. Entry includes ensuing work activities in that space and is considered to have occurred as soon as any part of the entrant's body breaks the plane of an opening into the space, whether or not such action is intentional or any work activities are actually performed in the space.

Entry employer means any employer who decides that an employee it directs will enter a permit space.
NOTE: An employer cannot avoid the duties of the standard merely by refusing to decide whether its employees will enter a permit space, and the Division will consider the failure to so decide to be an implicit decision to allow employees to enter those spaces if they are working in the proximity of the space.

Entry permit (permit) means the written or printed document that is provided by the employer who designated the space a permit space to allow and control entry into a permit space and that contains the information specified in Section 1955.

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

Entry supervisor means the qualified person (such as the employer, foreman, or crew chief) responsible for determining if acceptable entry conditions are present at a permit space where entry is planned, for authorizing entry and overseeing entry operations, and for terminating entry as required by this standard.
NOTE: An entry supervisor also may serve as an attendant or as an authorized entrant, as long as that person is trained and equipped as required by this standard for each role he or she fills. Also,

the duties of entry supervisor may be passed from one individual to another during the course of an entry operation.

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

Hazardous atmosphere means an atmosphere that may expose employees to the risk of death, incapacitation, impairment of ability to self-rescue (that is, escape unaided from a permit space), injury, or acute illness from one or more of the following causes:
(1) Flammable gas, vapor, or mist in excess of 10 percent of its lower flammable limit (LFL);
(2) Airborne combustible dust at a concentration that meets or exceeds its LFL;
NOTE to subsection (2): This concentration may be approximated as a condition in which the combustible dust obscures vision at a distance of 5 feet (1.52 meters) or less.
(3) Atmospheric oxygen concentration below 19.5 percent or above 23.5 percent;
(4) Atmospheric concentration of any substance for which a dose or a permissible exposure limit is published in Article 4 of the Construction Safety Orders and Group 16 of the General Industry Safety Orders;
NOTE to subsection (4): An atmospheric concentration of any substance that is not capable of causing death, incapacitation, impairment of ability to self-rescue, injury, or acute illness due to its health effects is not covered by this definition.
(5) Any other atmospheric condition that is immediately dangerous to life or health.
NOTE to subsection (5): For air contaminants for which the Division has not determined a dose or permissible exposure limit, other sources of information, such as Safety Data Sheets that comply with the Hazard Communication Standard, Section 5194, published information, and internal documents can provide guidance in establishing acceptable atmospheric conditions.

Host employer means the employer that owns or manages the property where the construction work is taking place.
NOTE: If the owner of the property on which the construction activity occurs has contracted with an entity for the general management of that property, and has transferred to that entity the information specified in Section 1952(h)(1), the Division will treat the contracted management entity as the host employer for as long as that entity manages the property. Otherwise, the Division will treat the owner of the property as the host employer. In no case will there be more than one host employer.

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

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

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NOTE: Some materials—hydrogen fluoride gas and cadmium vapor, for example—may produce immediate transient effects that, even if severe, may pass without medical attention, but are followed by sudden, possibly fatal collapse 12-72 hours after exposure. The victim "feels normal" after recovery from transient effects until collapse. Such materials in hazardous quantities are considered to be “immediately” dangerous to life or health.

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

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

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

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

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

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

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

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

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Non-permit confined space means a confined space that meets the definition of a confined space but does not meet the requirements for a permit-required confined space, as defined in this Article.

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

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

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

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

Physical hazard means an existing or potential hazard that can cause death or serious physical damage. Examples include, but are not limited to: explosives (as defined by Section 5237, definition of "explosive"); mechanical, electrical, hydraulic and pneumatic energy; radiation; temperature extremes; engulfment; noise; and inwardly converging surfaces. Physical hazard also includes chemicals that can cause death or serious physical damage through skin or eye contact (rather than through inhalation).

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

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

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

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

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

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

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

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

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

Ventilate or ventilation means controlling a hazardous atmosphere using continuous forced-air mechanical systems that meet the requirements of Section 1530, General Requirements for Mechanical Ventilation Systems.

NOTE: Authority cited: Section 142.3, Labor Code. Reference: Section 142.3, Labor Code.

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Add New Section 1952 as follows:

§1952. General Requirements.
(a) Before it begins work at a worksite, each employer shall ensure that a competent person identifies all confined spaces in which one or more of the employees it directs may work, and identifies each space that is a permit space, through consideration and evaluation of the elements of that space, including testing as necessary.
(b) If the workplace contains one or more permit spaces, the employer who identifies, or who receives notice of, a permit space shall:
(1) Inform exposed employees by posting danger signs or by any other equally effective means, of the existence and location of, and the danger posed by, each permit space; and
NOTE to Section 1952(b)(1): A sign reading "DANGER -- PERMIT-REQUIRED CONFINED SPACE, DO NOT ENTER" or using other similar language would satisfy the requirement for a sign.
(2) Inform, in a timely manner and in a manner other than posting, its employees' authorized representatives and the controlling contractor of the existence and location of, and the danger posed by, each permit space.
(c) Each employer who identifies, or receives notice of, a permit space and has not authorized employees it directs to work in that space shall take effective measures to prevent those employees from entering that permit space, in addition to complying with all other applicable requirements of this standard.
(d) If any employer decides that employees it directs will enter a permit space, that employer shall have a written permit space program that complies with Section 1953 implemented at the construction site. The written program shall be made available prior to and during entry operations for inspection by employees and their authorized representatives.
(e) An employer may use the alternate procedures specified in Section 1952(e)(2) for entering a permit space only under the conditions set forth in Section 1952(e)(1).
(1) An employer whose employees enter a permit space need not comply with Sections 1953 through 1955 and Sections 1957 through 1960, provided that all of the following conditions are met:
(A) The employer can demonstrate that all physical hazards in the space are eliminated or isolated through engineering controls so that the only hazard posed by the permit space is an actual or potential hazardous atmosphere;
(B) The employer can demonstrate that continuous forced air ventilation alone is sufficient to maintain that permit space safe for entry, and that, in the event the ventilation system stops working, entrants can exit the space safely;
(C) The employer develops monitoring and inspection data that supports the demonstrations required by Section 1952(e)(1)(A) and (e)(1)(B);
(D) If an initial entry of the permit space is necessary to obtain the data required by Section 1952(e)(1)(C), the entry is performed in compliance with Sections 1953 through 1960;

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(E) The determinations and supporting data required by Section 1952(e)(1)(A), Section 1952(e)(1)(B), and Section 1952(e)(1)(C) are documented by the employer and are made available to each employee who enters the permit space under the terms of Section 1952(e) or to that employee's authorized representative; and
(F) Entry into the permit space under the terms of Section 1952(e)(1) is performed in accordance with the requirements of Section 1952(e)(2).
NOTE to Section 1952(e)(1): See Section 1952(g) for reclassification of a permit space after all hazards within the space have been eliminated.
(2) The following requirements apply to entry into permit spaces that meet the conditions set forth in Section 1952(e)(1):
(A) Any conditions making it unsafe to remove an entrance cover shall be eliminated before the cover is removed.
(B) When entrance covers are removed, the opening shall be immediately guarded by a railing, temporary cover, or other temporary barrier that will prevent an accidental fall through the opening and that will protect each employee working in the space from foreign objects entering the space.
(C) Before an employee enters the space, the internal atmosphere shall be tested, with a calibrated direct-reading instrument, for oxygen content, for flammable gases and vapors, and for potential toxic air contaminants, in that order. Any employee who enters the space, or that employee's authorized representative, shall be provided an opportunity to observe the pre-entry testing required by subsection (e).
(D) No hazardous atmosphere is permitted within the space whenever any employee is inside the space.
(E) Continuous forced air ventilation shall be used, as follows:
1. An employee shall not enter the space until the forced air ventilation has eliminated any hazardous atmosphere;
2. The forced air ventilation shall be so directed as to ventilate the immediate areas where an employee is or will be present within the space and shall continue until all employees have left the space;
3. The air supply for the forced air ventilation shall be from a clean source and shall not increase the hazards in the space.
(F) The atmosphere within the space shall be continuously monitored unless the entry employer can demonstrate that equipment for continuous monitoring is not commercially available or periodic monitoring is sufficient. If continuous monitoring is used, the employer shall ensure that the monitoring equipment has an alarm that will notify all entrants if a specified atmospheric threshold is achieved, or that an employee will check the monitor with sufficient frequency to ensure that entrants have adequate time to escape. If continuous monitoring is not used, periodic monitoring is required. All monitoring shall ensure that the continuous forced air ventilation is preventing the accumulation of a hazardous atmosphere. Any employee who enters the space, or that employee's authorized representative, shall be provided with an opportunity to observe the testing required by subsection (e)(2)(F).

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(G) If a hazard is detected during entry:
1. Each employee shall leave the space immediately;
2. The space shall be evaluated to determine how the hazard developed; and
3. The employer shall implement measures to protect employees from the hazard before any subsequent entry takes place.
(H) The employer shall ensure a safe method of entering and exiting the space. If a hoisting system is used, it shall be designed and manufactured for personnel hoisting; however, a job-made hoisting system is permissible if it is approved for personnel hoisting by a registered professional engineer, in writing, prior to use.
(I) The employer shall verify that the space is safe for entry and that the pre-entry measures required by Section 1952(e)(2) have been taken, through a written certification that contains the date, the location of the space, and the signature of the person providing the certification. The certification shall be made before entry and shall be made available to each employee entering the space or to that employee's authorized representative.
(f) When there are changes in the use or configuration of a non-permit confined space that might increase the hazards to entrants, or some indication that the initial evaluation of the space may not have been adequate, each entry employer shall have a competent person reevaluate that space and, if necessary, reclassify it as a permit-required confined space.
(g) A space classified by an employer as a permit-required confined space may only be reclassified as a non-permit confined space when a competent person determines that all of the applicable requirements in Section 1952(g)(1) through (g)(4) have been met:
(1) If the permit space poses no actual or potential atmospheric hazards and if all hazards within the space are eliminated or isolated without entry into the space (unless the employer can demonstrate that doing so without entry is infeasible), the permit space may be reclassified as a non-permit confined space for as long as the non-atmospheric hazards remain eliminated or isolated;
(2) The entry employer shall eliminate or isolate the hazards without entering the space, unless it can demonstrate that this is infeasible. If it is necessary to enter the permit space to eliminate or isolate hazards, such entry shall be performed under Sections 1953 through 1960. If testing and inspection during that entry demonstrate that the hazards within the permit space have been eliminated or isolated, the permit space may be reclassified as a non-permit confined space for as long as the hazards remain eliminated or isolated;
NOTE to Section 1952(g)(2): Control of atmospheric hazards through forced air ventilation does not constitute elimination or isolation of the hazards. Section 1952(e) covers permit space entry where the employer can demonstrate that forced air ventilation alone will control all hazards in the space.
(3) The entry employer shall document the basis for determining that all hazards in a permit space have been eliminated or isolated, through a certification that contains the date, the location of the space, and the signature of the person making the determination. The certification shall be made available to each employee entering the space or to that employee's authorized representative; and

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(4) If hazards arise within a permit space that has been reclassified as a non-permit space under Section 1952(g), each employee in the space shall exit the space. The entry employer shall then reevaluate the space and reclassify it as a permit space as appropriate in accordance with all other applicable provisions of this standard.
(h) Permit Space Entry Communication and Coordination.
(1) Before entry operations begin, the host employer shall provide the following information, if it has it, to the controlling contractor:
(A) The location of each known permit space;
(B) The hazards or potential hazards in each space or the reason it is a permit space; and
(C) Any precautions that the host employer or any previous controlling contractor or entry employer implemented for the protection of employees in the permit space.
(2) Before entry operations begin, the controlling contractor shall:
(A) Obtain the host employer's information about the permit space hazards and previous entry operations; and
(B) Provide the following information to each entity entering a permit space and any other entity at the worksite whose activities could foreseeably result in a hazard in the permit space:
1. The information received from the host employer;
2. Any additional information the controlling contractor has about the subjects listed in Section 1952(h)(1); and
3. The precautions that the host employer, controlling contractor, or other entry employers implemented for the protection of employees in the permit spaces.
(3) Before entry operations begin, each entry employer shall:
(A) Obtain all of the controlling contractor's information regarding permit space hazards and entry operations; and
(B) Inform the controlling contractor of the permit space program that the entry employer will follow, including any hazards likely to be confronted or created in each permit space.
(4) The controlling contractor and entry employer(s) shall coordinate entry operations when:
(A) More than one entity performs permit space entry at the same time; or
(B) Permit space entry is performed at the same time that any activities that could foreseeably result in a hazard in the permit space are performed.
(5) After entry operations:
(A) The controlling contractor shall debrief each entity that entered a permit space regarding the permit space program followed and any hazards confronted or created in the permit space(s) during entry operations;
(B) The entry employer shall inform the controlling contractor in a timely manner of the permit space program followed and of any hazards confronted or created in the permit space(s) during entry operations; and
(C) The controlling contractor shall apprise the host employer of the information exchanged with the entry entities pursuant to subsection (h)(5).

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NOTE to Section 1952(h): Unless a host employer or controlling contractor has or will have employees in a confined space, it is not required to enter any confined space to collect the information specified in Section 1952(h).
(i) If there is no controlling contractor present at the worksite, the requirements for, and role of, controlling contactors in Section 1952 shall be fulfilled by the host employer or other employer who arranges to have employees of another employer perform work that involves permit space entry.

NOTE: Authority cited: Section 142.3, Labor Code. Reference: Section 142.3, Labor Code.

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Add New Section 1953 as follows:

§1953. Permit-Required Confined Space Program.
(a) Each entry employer shall:
(1) Implement the measures necessary to prevent unauthorized entry;
(2) Identify and evaluate the hazards of permit spaces before employees enter them;
(3) Develop and implement the means, procedures, and practices necessary for safe permit space entry operations, including, but not limited to, the following:
(A) Specifying acceptable entry conditions;
(B) Providing each authorized entrant or that employee's authorized representative with the opportunity to observe any monitoring or testing of permit spaces;
(C) Isolating the permit space and physical hazard(s) within the space;
(D) Purging, inerting, flushing, or ventilating the permit space as necessary to eliminate or control atmospheric hazards;
NOTE to Section 1953(a)(3)(D): When an employer is unable to reduce the atmosphere below 10 percent LFL, the employer may only enter if the employer inerts the space so as to render the entire atmosphere in the space non-combustible, and the employees use PPE to address any other atmospheric hazards (such as oxygen deficiency), and the employer eliminates or isolates all physical hazards in the space.
(E) Determining that, in the event the ventilation system stops working, the monitoring procedures will detect an increase in atmospheric hazard levels in sufficient time for the entrants to safely exit the permit space;
(F) Providing pedestrian, vehicle, or other barriers as necessary to protect entrants from external hazards;
(G) Verifying that conditions in the permit space are acceptable for entry throughout the duration of an authorized entry, and ensuring that employees are not allowed to enter into, or remain in, a permit space with a hazardous atmosphere unless the employer can demonstrate that personal protective equipment (PPE) will provide effective protection for each employee in the permit space and provides the appropriate PPE to each employee; and
(H) Eliminating any conditions (for example, high pressure) that could make it unsafe to remove an entrance cover.
(4) Provide the following equipment (specified in Section 1953(a)(4)(A) through (a)(4)(I)) at no cost to each employee, maintain that equipment properly, and ensure that each employee uses that equipment properly:
(A) Testing and monitoring equipment needed to comply with Section 1953(a)(5);
(B) Ventilating equipment needed to obtain acceptable entry conditions;
(C) Communications equipment necessary for compliance with Section 1957(a)(3) and Section 1958(a)(5), including any necessary electronic communication equipment for attendants assessing entrants' status in multiple spaces;

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(D) Personal protective equipment insofar as feasible engineering and work-practice controls do not adequately protect employees;
NOTE to Section 1953(a)(4)(D): The requirements of Article 3 of the Construction Safety Orders, Article 10 of the General Industry Safety Orders, and other PPE requirements continue to apply to the use of PPE in a permit space. For example, if employees use respirators, then the respirator requirements in Section 5144 (Respiratory protection) shall be met.
(E) Lighting equipment that meets the minimum illumination requirements in Section 1523, that is approved for the ignitable or combustible properties of the specific gas, vapor, dust, or fiber that will be present, and that is sufficient to enable employees to see well enough to work safely and to exit the space quickly in an emergency;
(F) Barriers and shields as required by Section 1953(a)(3)(F);
(G) Equipment, such as ladders, needed for safe ingress and egress by authorized entrants;
(H) Rescue and emergency equipment needed to comply with Section 1953(a)(9), except to the extent that the equipment is provided by rescue services; and
(I) Any other equipment necessary for safe entry into, safe exit from, and rescue from, permit spaces.
(5) Evaluate permit space conditions in accordance with the following Section 1953(a)(5)(A) through (a)(5)(F) when entry operations are conducted:
(A) Test conditions in the permit space to determine if acceptable entry conditions exist before changes to the space's natural ventilation are made, and before entry is authorized to begin, except that, if an employer demonstrates that isolation of the space is infeasible because the space is large or is part of a continuous system (such as a sewer), the employer shall:
1. Perform pre-entry testing to the extent feasible before entry is authorized; and,
2. If entry is authorized, continuously monitor entry conditions in the areas where authorized entrants are working, except that employers may use periodic monitoring in accordance with Section 1953(a)(5)(B) for monitoring an atmospheric hazard if they can demonstrate that equipment for continuously monitoring that hazard is not commercially available;
3. Provide an early-warning system that continuously monitors for non-isolated engulfment hazards. The system shall alert authorized entrants and attendants in sufficient time for the authorized entrants to safely exit the space.
(B) Continuously monitor atmospheric hazards unless the employer can demonstrate that the equipment for continuously monitoring a hazard is not commercially available or that periodic monitoring is of sufficient frequency to ensure that the atmospheric hazard is being controlled at safe levels. If continuous monitoring is not used, periodic monitoring is required with sufficient frequency to ensure that acceptable entry conditions are being maintained during the course of entry operations;
(C) When testing for atmospheric hazards, test first for oxygen, then for combustible gases and vapors, and then for toxic gases and vapors;
(D) Provide each authorized entrant or that employee's authorized representative an opportunity to observe the pre-entry and any subsequent testing or monitoring of permit spaces;

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(E) Re-evaluate the permit space in the presence of any authorized entrant or that employee's authorized representative who requests that the employer conduct such reevaluation because there is some indication that the evaluation of that space may not have been adequate; and
(F) Immediately provide each authorized entrant or that employee's authorized representative with the results of any testing conducted in accordance with Section 1953.
(6) Provide at least one attendant outside the permit space into which entry is authorized for the duration of entry operations;
(A) Attendants may be assigned to more than one permit space provided the duties described in Section 1958 can be effectively performed for each permit space.
(B) Attendants may be stationed at any location outside the permit space as long as the duties described in Section 1958 can be effectively performed for each permit space to which the attendant is assigned.
(7) If multiple spaces are to be assigned to a single attendant, include in the permit program the means and procedures to enable the attendant to respond to an emergency affecting one or more of those permit spaces without distraction from the attendant's responsibilities under Section 1958;
(8) Designate each person who is to have an active role (as, for example, authorized entrants, attendants, entry supervisors, or persons who test or monitor the atmosphere in a permit space) in entry operations, identify the duties of each such employee, and provide each such employee with the training required by Section 1956;
(9) Develop and implement procedures for summoning rescue and emergency services (including procedures for summoning emergency assistance in the event of a failed non-entry rescue), for rescuing entrants from permit spaces, for providing necessary emergency services to rescued employees, and for preventing unauthorized personnel from attempting a rescue;
(10) Develop and implement a system for the preparation, issuance, use, and cancellation of entry permits as required by this standard, including the safe termination of entry operations under both planned and emergency conditions;
(11) Develop and implement procedures to coordinate entry operations, in consultation with the controlling contractor, when employees of more than one employer are working simultaneously in a permit space or elsewhere on the worksite where their activities could, either alone or in conjunction with the activities within a permit space, foreseeably result in a hazard within the confined space, so that employees of one employer do not endanger the employees of any other employer;
(12) Develop and implement procedures (such as closing off a permit space and canceling the permit) necessary for concluding the entry after entry operations have been completed;
(13) Review entry operations when the measures taken under the permit space program may not protect employees and revise the program to correct deficiencies found to exist before subsequent entries are authorized; and
NOTE to Section 1953(a)(13): Examples of circumstances requiring the review of the permit space program include, but are not limited to: any unauthorized entry of a permit space, the detection of a permit space hazard not covered by the permit, the detection of a condition prohibited by the

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permit, the occurrence of an injury or near-miss during entry, a change in the use or configuration of a permit space, and employee complaints about the effectiveness of the program.
(14) Review the permit space program, using the canceled permits retained under Section 1954(f), within 1 year after each entry and revise the program as necessary to ensure that employees participating in entry operations are protected from permit space hazards.
NOTE to Section 1953(a)(14): Employers may perform a single annual review covering all entries performed during a 12-month period. If no entry is performed during a 12-month period, no review is necessary.

NOTE: Authority cited: Section 142.3, Labor Code. Reference: Section 142.3, Labor Code.

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Add New Section 1954 as follows:

§1954. Permitting Process.
(a) Before entry is authorized, each entry employer shall document the completion of measures required by Section 1953(a)(3) by preparing an entry permit.
(b) Before entry begins, the entry supervisor identified on the permit shall sign the entry permit to authorize entry.
(c) The completed permit shall be made available at the time of entry to all authorized entrants or their authorized representatives, by posting it at the entry portal or by any other equally effective means, so that the entrants can confirm that pre-entry preparations have been completed.
(d) The duration of the permit may not exceed the time required to complete the assigned task or job identified on the permit in accordance with Section 1955(a)(2).
(e) The entry supervisor shall terminate entry and take the following action when any of the following apply:
(1) Cancel the entry permit when the entry operations covered by the entry permit have been completed; or
(2) Suspend or cancel the entry permit and fully reassess the space before allowing reentry when a condition that is not allowed under the entry permit arises in or near the permit space and that condition is temporary in nature and does not change the configuration of the space or create any new hazards within it; and
(3) Cancel the entry permit when a condition that is not allowed under the entry permit arises in or near the permit space and that condition is not covered by Section 1954(e)(2).
(f) The entry employer shall retain each canceled entry permit for at least 1 year to facilitate the review of the permit-required confined space program required by Section 1953(a)(14). Any problems encountered during an entry operation shall be noted on the pertinent permit so that appropriate revisions to the permit space program can be made.

NOTE: Authority cited: Section 142.3, Labor Code. Reference: Section 142.3, Labor Code.

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Add New Section 1955 as follows:

§1955. Entry Permit.
(a) The entry permit that documents compliance with this section and authorizes entry to a permit space shall identify:
(1) The permit space to be entered;
(2) The purpose of the entry;
(3) The date and the authorized duration of the entry permit;
(4) The authorized entrants within the permit space, by name or by such other means (for example, through the use of rosters or tracking systems) as will enable the attendant to determine quickly and accurately, for the duration of the permit, which authorized entrants are inside the permit space;
NOTE to Section 1955(a)(4): This requirement may be met by inserting a reference on the entry permit as to the means used, such as a roster or tracking system, to keep track of the authorized entrants within the permit space.
(5) Means of detecting an increase in atmospheric hazard levels in the event the ventilation system stops working;
(6) Each person, by name, currently serving as an attendant;
(7) The individual, by name, currently serving as entry supervisor, and the signature or initials of each entry supervisor who authorizes entry;
(8) The hazards of the permit space to be entered;
(9) The measures used to isolate the permit space and to eliminate or control permit space hazards before entry;
NOTE to Section 1955(a)(9): Those measures can include, but are not limited to, the lockout or tagging of equipment and procedures for purging, inerting, ventilating, and flushing permit spaces.
(10) The acceptable entry conditions;
(11) The results of tests and monitoring performed under Section 1953(a)(5), accompanied by the names or initials of the testers and by an indication of when the tests were performed;
(12) The rescue and emergency services that can be summoned and the means (such as the equipment to use and the numbers to call) for summoning those services;
(13) The communication procedures used by authorized entrants and attendants to maintain contact during the entry;
(14) Equipment, such as personal protective equipment, testing equipment, communications equipment, alarm systems, and rescue equipment, to be provided for compliance with this standard;
(15) Any other information necessary, given the circumstances of the particular confined space, to ensure employee safety; and
(16) Any additional permits, such as for hot work, that have been issued to authorize work in the permit space.

NOTE: Authority cited: Section 142.3, Labor Code. Reference: Section 142.3, Labor Code.

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Add New Section 1956 as follows:

§1956. Training.
(a) The employer shall provide training to each employee whose work is regulated by this standard, at no cost to the employee, and ensure that the employee possesses the understanding, knowledge, and skills necessary for the safe performance of the duties assigned under this standard. This training shall result in an understanding of the hazards in the permit space and the methods used to isolate, control or in other ways protect employees from these hazards, and for those employees not authorized to perform entry rescues, in the dangers of attempting such rescues.
(b) Training required by this section shall be provided to each affected employee:
(1) In both a language and vocabulary that the employee can understand;
(2) Before the employee is first assigned duties under this standard;
(3) Before there is a change in assigned duties;
(4) Whenever there is a change in permit space entry operations that presents a hazard about which an employee has not previously been trained; and
(5) Whenever there is any evidence of a deviation from the permit space entry procedures required by Section 1953(a)(3) or there are inadequacies in the employee's knowledge or use of these procedures.
(c) The training shall establish employee proficiency in the duties required by this standard and shall introduce new or revised procedures, as necessary, for compliance with this standard.
(d) The employer shall maintain training records to show that the training required by Section 1956(a) through (c) has been accomplished. The training records shall contain each employee's name, the name of the trainers, and the dates of training. The documentation shall be available for inspection by employees and their authorized representatives, for the period of time the employee is employed by that employer.

NOTE: Authority cited: Section 142.3, Labor Code. Reference: Section 142.3, Labor Code.

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Add New Section 1957 as follows:

§1957. Duties of Authorized Entrants.
(a) The entry employer shall ensure that all authorized entrants:
(1) Are familiar with and understand the hazards that may be faced during entry, including information on the mode, signs or symptoms, and consequences of the exposure;
(2) Properly use equipment as required by Section 1953(a)(4);
(3) Communicate with the attendant as necessary to enable the attendant to assess entrant status and to enable the attendant to alert entrants of the need to evacuate the space as required by Section 1958(a)(6);
(4) Alert the attendant whenever:
(A) There is any warning sign or symptom of exposure to a dangerous situation; or
(B) The entrant detects a prohibited condition; and
(5) Exit from the permit space as quickly as possible whenever:
(A) An order to evacuate is given by the attendant or the entry supervisor;
(B) There is any warning sign or symptom of exposure to a dangerous situation;
(C) The entrant detects a prohibited condition; or
(D) An evacuation alarm is activated.

NOTE: Authority cited: Section 142.3, Labor Code. Reference: Section 142.3, Labor Code.

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Add New Section 1958 as follows:

§1958. Duties of Attendants.
(a) The entry employer shall ensure that each attendant:
(1) Is familiar with and understands the hazards that may be faced during entry, including information on the mode, signs or symptoms, and consequences of the exposure;
(2) Is aware of possible behavioral effects of hazard exposure in authorized entrants;
(3) Continuously maintains an accurate count of authorized entrants in the permit space and ensures that the means used to identify authorized entrants under Section 1955(a)(4) accurately identifies who is in the permit space;
(4) Remains outside the permit space during entry operations until relieved by another attendant;
NOTE to Section 1958(a)(4): Once an attendant has been relieved by another attendant, the relieved attendant may enter a permit space to attempt a rescue when the employer's permit space program allows attendant entry for rescue and the attendant has been trained and equipped for rescue operations as required by Section 1960(a).
(5) Communicates with authorized entrants as necessary to assess entrant status and to alert entrants of the need to evacuate the space under Section 1957(a)(5);
(6) Assesses activities and conditions inside and outside the space to determine if it is safe for entrants to remain in the space and orders the authorized entrants to evacuate the permit space immediately under any of the following conditions:
(A) If there is a prohibited condition;
(B) If the behavioral effects of hazard exposure are apparent in an authorized entrant;
(C) If there is a situation outside the space that could endanger the authorized entrants; or
(D) If the attendant cannot effectively and safely perform all the duties required under Section 1958;
(7) Summons rescue and other emergency services as soon as the attendant determines that authorized entrants may need assistance to escape from permit space hazards;
(8) Takes the following actions when unauthorized persons approach or enter a permit space while entry is underway:
(A) Warns the unauthorized persons that they shall stay away from the permit space;
(B) Advises the unauthorized persons that they shall exit immediately if they have entered the permit space; and
(C) Informs the authorized entrants and the entry supervisor if unauthorized persons have entered the permit space;
(9) Performs non-entry rescues as specified by the employer's rescue procedure; and
(10) Performs no duties that might interfere with the attendant's primary duty to assess and protect the authorized entrants.

NOTE: Authority cited: Section 142.3, Labor Code. Reference: Section 142.3, Labor Code.

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Add New Section 1959 as follows:

§1959. Duties of Entry Supervisors.
(a) The entry employer shall ensure that each entry supervisor:
(1) Is familiar with and understands the hazards that may be faced during entry, including information on the mode, signs or symptoms, and consequences of the exposure;
(2) Verifies, by checking that the appropriate entries have been made on the permit, that all tests specified by the permit have been conducted and that all procedures and equipment specified by the permit are in place before endorsing the permit and allowing entry to begin;
(3) Terminates the entry and cancels or suspends the permit as required by Section 1954(e);
(4) Verifies that rescue services are available and that the means for summoning them are operable, and that the employer will be notified as soon as the services become unavailable;
(5) Removes unauthorized individuals who enter or who attempt to enter the permit space during entry operations; and
(6) Determines, whenever responsibility for a permit space entry operation is transferred, and at intervals dictated by the hazards and operations performed within the space, that entry operations remain consistent with terms of the entry permit and that acceptable entry conditions are maintained.

NOTE: Authority cited: Section 142.3, Labor Code. Reference: Section 142.3, Labor Code.

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Add New Section 1960 as follows:

§1960. Rescue and Emergency Services.
(a) An employer who designates rescue and emergency services, pursuant to Section 1953(a)(9), shall:
(1) Evaluate a prospective rescuer's ability to respond to a rescue summons in a timely manner, considering the hazard(s) identified;
NOTE to Section 1960(a)(1): What will be considered timely will vary according to the specific hazards involved in each entry. For example, Section 5144, Respiratory Protection requires that employers provide a standby person or persons capable of immediate action to rescue employee(s) wearing respiratory protection while in work areas defined as IDLH atmospheres.
(2) Evaluate a prospective rescue service's ability, in terms of proficiency with rescue-related tasks and equipment, to function appropriately while rescuing entrants from the particular permit space or types of permit spaces identified;
(3) Select a rescue team or service from those evaluated that:
(A) Has the capability to reach the victim(s) within a time frame that is appropriate for the permit space hazard(s) identified;
(B) Is equipped for, and proficient in, performing the needed rescue services;
(C) Agrees to notify the employer immediately in the event that the rescue service becomes unavailable;
(4) Inform each rescue team or service of the hazards they may confront when called on to perform rescue at the site; and
(5) Provide the rescue team or service selected with access to all permit spaces from which rescue may be necessary so that the rescue team or service can develop appropriate rescue plans and practice rescue operations.
(b) An employer whose employees have been designated to provide permit space rescue and/or emergency services shall take the following measures and provide all equipment and training at no cost to those employees:
(1) Provide each affected employee with the personal protective equipment (PPE) needed to conduct permit space rescues safely and train each affected employee so the employee is proficient in the use of that PPE;
(2) Train each affected employee to perform assigned rescue duties. The employer shall ensure that such employees successfully complete the training required and establish proficiency as authorized entrants, as provided by Sections 1956 and 1957;
(3) Train each affected employee in basic first aid and cardiopulmonary resuscitation (CPR). The employer shall ensure that at least one member of the rescue team or service holding a current certification in basic first aid and CPR is available; and
(4) Ensure that affected employees practice making permit space rescues before attempting an actual rescue, and at least once every 12 months, by means of simulated rescue operations in which they remove dummies, manikins, or actual persons from the actual permit spaces or from

representative permit spaces, except practice rescue is not required where the affected employees properly performed a rescue operation during the last 12 months in the same permit space the authorized entrant will enter, or in a similar permit space. Representative permit spaces shall, with respect to opening size, configuration, and accessibility, simulate the types of permit spaces from which rescue is to be performed.

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

(1) Each authorized entrant shall use a chest or full body harness, with a retrieval line attached at the center of the entrant's back near shoulder level, above the entrant's head, or at another point which the employer can establish presents a profile small enough for the successful removal of the entrant. Wristlets or anklets may be used in lieu of the chest or full body harness if the employer can demonstrate that the use of a chest or full body harness is infeasible or creates a greater hazard and that the use of wristlets or anklets is the safest and most effective alternative.

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

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

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

NOTE: Authority cited: Section 142.3, Labor Code. Reference: Section 142.3, Labor Code.

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Add New Section 1961 as follows:

§1961. Employee Participation.
(a) Employers shall consult with affected employees and their authorized representatives on the development and implementation of all aspects of the permit space program required by Section 1952.
(b) Employers shall make available to each affected employee and his/her authorized representatives all information required to be developed by this standard.

NOTE: Authority cited: Section 142.3, Labor Code. Reference: Section 142.3, Labor Code.

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Add New Section 1962 as follows:

§1962. Provision of Documents to the Chief of the Division of Occupational Safety and Health.
(a) For each document required to be retained in this standard, the retaining employer shall make the document available on request to the Chief of the Division of Occupational Safety and Health or designee.

NOTE: Authority cited: Section 142.3, Labor Code. Reference: Section 142.3, Labor Code.