

DEPARTMENT OF INDUSTRIAL RELATIONS
Occupational Safety and Health Standards Board
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INITIAL STATEMENT OF REASONS

CALIFORNIA CODE OF REGULATIONS

TITLE 8: Sections 1951, 1952, 1953, 1955, 1956, and 1960 of the Construction Safety Orders

Section 5156 of the General Industry Safety Orders

Confined Spaces in Construction Clean-up

On November 19, 2015, the Occupational Safety and Health Standards Boards (Board) adopted the Federal Confined Spaces in Construction standard (Subpart AA) as Construction Safety Orders (CSO), sections 1950-1962 *Confined Spaces in Construction*. During the rulemaking process, stakeholders and members of the Board raised concerns regarding the concurrent applicability of section 5158, Other Confined Space Operations, which is made applicable to the construction operations through section 5156(b)(2)(A), with the Confined Spaces in Construction standard. Additional stakeholder concerns were directed at the clarity of certain provisions within article 37. The Division of Occupational Safety and Health (Cal/OSHA) expressed concerns that removing protections, found within section 5158, for construction operations would undermine the safety of construction trade employees working in and near confined spaces.

In response to concerns raised by the Board, Cal/OSHA and other stakeholders, an advisory committee was convened September 6, 2017, to discuss repealing section 5156(b)(2)(A), incorporating portions of section 5158 into sections 1951-1960 and amending portions of sections 1951-1960, to retain existing worker protections.

In addition to recommending that the provisions within section 5158 be retained, the advisory committee achieved consensus on amendments consisting of definitions, identification of confined spaces, requirements for a written program, the inclusion of certain provisions from section 5158, communication among employers working in and around permit spaces and the inclusion of provisions and precautions for the use of multi-gas meters.

This proposal amends certain provisions originally contained within Subpart AA and includes provisions where consensus was achieved during the advisory committee meeting and additional technical clarifying amendments identified after the advisory committee proceedings.

The proposal repeals section 5156(b)(2)(A) removing the applicability of the provisions of section 5158 upon confined spaces in construction.

SPECIFIC PURPOSE AND FACTUAL BASIS OF PROPOSED ACTION

The specific changes to the CSO are as follows:

Section 1951. Definitions.

This section clarifies the application and meaning of the existing terminology used in article 37. "Entry employer," "hazardous atmosphere," "lockout" and "tagout" were modified as a result of the advisory committee consensus. "Minimum explosive concentration" was not defined in the CSO and is proposed from the 2006 edition of the National Fire Protection Association (NFPA) 654 *Standard for the Prevention of Fire and Dust Explosions from the Manufacturing, Processing and Handling of Combustible Particulate Solids*. The definition of "lower explosive limit" was modified to include the acronyms "LFL" and "LEL" for clarity. These clarifications are necessary to enhance clarity, incorporate terms from existing regulations and eliminate concurrent applicability of section 5158.

"Entry employer" is amended to eliminate the indeterminable assessment of "deciding" and "refusing to decide" as a component of establishing which employers are covered under this definition. Instead "entry employers" encompasses those employers whose employees enter a permit space or will enter a permit space. The purpose and necessity of this action are to classify any employer whose employee enters a permit space as an entry employer.

The accompanying NOTE is deleted for clarity as it conflicts with the proposed change. The purpose and necessity of this action are to remove ambiguity as the note is no longer consistent with the changes proposed under the definition of "entry employer."

"Hazardous atmosphere" is amended to incorporate the airborne combustible particulate concentrations described in section 5158(b)(2)(B). The current definition establishes a threshold of airborne combustible dust concentration as one that "meets or exceeds its LFL." The proposal requires the more protective "exceeds 20 percent of the minimum explosive concentration (MEC)." The amendment is necessary to ensure the threshold of airborne concentration of combustible dust is not relaxed as a result of repealing "Construction operations regulated by section 1502" from section 5156(b)(2).

The NOTE to subsection (2) of "hazardous atmosphere" is deleted as it is no longer consistent with the definition of "hazardous atmosphere" as currently proposed. The purpose and necessity of this action are to remove ambiguity as the note is not consistent with the proposed changes.

Additionally, the definition of "hazardous atmosphere" is amended to include "and which could result in employee exposure in excess of its dose or permissible exposure limit," which was

unintentionally omitted during the 2015 rulemaking. The purpose and necessity of this action are to include this federal OSHA provision which was unintentionally omitted during the 2015 rulemaking.

“Lockout” is amended to require an “effective” procedure rather than an “established” procedure. This amendment is necessary to clarify that such procedures, when created, consider the efficacy of the procedures to isolate hazards and protect employees. The purpose and necessity of this action are to clarify that the act of lockout must conform to an effective procedure rather than an established procedure.

“Lower flammable limit” is editorially amended to include the acronyms “LEL” and “LFL.” The additions are necessary for clarity and consistency. The purpose and necessity of this action are to clarify that the acronyms “LFL” and “LEL” are associated with “lower flammable limit” and “lower explosive limit” (respectively) where used in article 37.

“Minimum explosive concentration” is not currently defined within the CSO. The proposed definition is from the 2006 edition of the NFPA 654. The term is utilized under section 5158 and is a descriptive term referring to concentrations of airborne combustible particulates. The amendment is necessary to define the term “minimum explosive concentration” as used in the definition of “hazardous atmosphere.”

“Tagout” is amended to require an “effective” procedure rather than an “established” procedure. The amendment is necessary to clarify that such procedures, when created, consider the efficacy of the procedures to isolate hazards and protect employees. The purpose and necessity of this clarification are to ensure that the circuit or equipment being controlled may not be operated until the tagout device is removed.

Subsection (B) is amended to delete “that” as its usage is a duplication of subsection (2). This editorial revision is necessary to grammatically correct this paragraph and has no regulatory effect.

Section 1952. General Requirements.

This section contains general requirements for confined space operations. Amendments are proposed to enhance clarity, reformat existing requirements and incorporate safeguards currently required by section 5158.

Existing subsection 1952(a) has been reformatted to enhance clarity and separate each listed requirement into four individual subsections. (See new subsection 1952(a) and 1952(a)(1-4) below.) The amendment to subsection (a) also incorporates additional protections found in the consensus standard, American National Standards Institute/American Society of Safety Engineers (ANSI/ASSE) A10.43 (2016), *Confined Spaces in Construction and Demolition Operations*, American National Standard for Construction and Demolition Operations. The

purpose and necessity of this action are to subdivide the stated duties within the existing section 1952(a) in an understandable format providing greater clarity of the responsibilities of employers.

New subsection 1952(a) titled "Identification of confined spaces and evaluation of permit required confined spaces." The purpose and necessity are to facilitate the relocation and subdivision of the 1952(a) provisions into the following subsections and has no regulatory effect.

Subsection (a)(1) retains the existing duty that requires an initial survey be conducted by a competent person to identify existing confined spaces. The amendment is necessary to ensure that confined spaces in which employees may encroach are known to their employers so protective measures may be undertaken. The purpose and necessity are to relocate and clarify the first provision of the existing section 1952. Subsection (a)(1) reiterates the existing requirement that a competent person identify existing confined spaces but clarifies that it be done through an initial survey of its work area.

Subsection (a)(2) requires periodic inspections by a competent person to discover new confined spaces. The amendment is necessary to ensure the discovery and assessment of confined spaces created after the initial survey (subsection (a)(1)) by having a competent person periodically inspect their worksite.

Subsection (a)(3) requires employers to inform their employees and the controlling employer of the existence of newly created confined spaces. The amendment is necessary to ensure that confined spaces identified during the course of inspections specified by subsection (a)(2) are brought to the attention of the controlling employer and to make the employer's own employees aware of the existence of the newly identified confined space.

Subsection (a)(4) maintains the existing requirement for employers whose operations require entry into confined spaces to determine, with the aid of a competent person, the proper classification of the confined space. The purpose and necessity of this provision would be to retain the existing provision from subsection 1952(a) and relocate it under subsection 1952(a)(4).

Subsection (d) is amended to replace the phrase "If any employer decides that employees it directs will enter a permit space" with the clearly defined term "entry employers." The amendment is necessary to maintain consistency with the proposed amendment to the definition of "entry employers" in section 1951.

Subsection (e)(2)(C) proposes a technical clarifying amendment that accounts for multi-gas meters that concurrently monitor multiple airborne hazards. The change allows the use of multi-gas meters provided the order the readings are examined is preserved. The purpose and

necessity of this clarification are to remove ambiguity that multi-gas meters may be used, subject to the order of testing prescribed in existing section 1952(e)(2)(C).

Section 1953. Permit Required Confined Space Program.

This section enhances programmatic requirements by clarifying that procedures be written and effective, codifying safeguards related to “hot work” in permit spaces, incorporating provisions from section 5158 regarding sources of ignitions in permit spaces, surveillance of connected spaces from which a hazardous atmosphere may migrate, clarifying provisions with a multi-gas meter is utilized to monitor for atmospheric hazards and substituting the term “emergency services” with the defined term “emergency medical services.”

Subsection (a) is amended to clarify that the required employer permit space program must be in writing, for consistency with existing section 1952(d). The amendment is necessary to incorporate and preserve safeguards currently provided under section 5158(c) and clarify that the program shall be in writing for consistency with section 1952(d).

The existing “NOTE” after subsection (d) has been rewritten and proposed as subsection (a)(3)(D)(1)(a)-(c). The amendment is necessary to allow operations under the exception in situations where the employer is incapable of reducing the airborne concentration of flammable gases/vapors to safe levels (below 10 percent of the LFL). An entry employer may seek to render the atmosphere inert within the space, prior to proceeding with entry into a permit space. Entry under the exception will be performed where the atmosphere within the permit space is rendered inert provided that protective measures such as respiratory protection are provided and all physical hazards eliminated or isolated.

Subsections (a)(3)(D)(1)(a)-(c) are the three conditions that an entry employer must meet to perform work in atmospheres greater than 10 percent of the LFL.

Subsection (a)(3)(D)(1)(a) requires the confined space to be rendered inert for the duration of the entry. The amendment would ensure airborne concentrations of flammable/combustible gases and vapors within the permit space cannot be ignited.

Subsection (a)(3)(D)(1)(b) requires an entry employer to provide employees working in a permit space where an inert atmosphere is maintained with a source of supplied air and the means by which the breathing air is provided is consistent with atmospheres that are immediately dangerous to life and health. The purpose and necessity of this proposal are to make clear employers are required to protect employees against atmospheric hazards by providing respiratory protection in accordance with section 5144(d)(2).

Subsection (a)(3)(D)(1)(c) requires the entry employer to eliminate or isolate all physical hazards within the permit space that may pose a risk to employees or impair their ability to safely enter or exit the permit space. The amendments are necessary to ensure that, should

entry into the permit space (where the airborne concentration cannot be reduced below 10 percent of the LFL) be necessary, an entry employer renders the permit space inert, provides that protection measures such as respiratory protection is provided and eliminates or isolates all physical hazards.

Subsection (a)(3)(G) and (H) include non-substantive formatting amendments.

New subsection (a)(3)(I) prohibits the use of sources of ignition within permit spaces where the conditions within the permit space are susceptible to fire or explosion. The amendment is necessary to retain the prohibition found in section 5158(d)(8), which would otherwise no longer be applicable given the proposed repeal of section 5156(b)(2)(A).

New subsection (a)(3)(J) requires the entry procedures to include means to detect the potential of drifting airborne hazards from tanks, piping and sewers. The amendment is necessary to retain the requirements for monitoring connected spaces in section 5158(c)(1)(B), which would otherwise no longer be applicable given the proposed repeal of section 5156(b)(2)(A).

Subsection (a)(5)(C) is a technical clarifying amendment that accounts for multi-gas meters that concurrently monitor multiple airborne hazards. The amendment is necessary to clarify concerns raised that the existing requirement precluded the use of concurrent monitoring devices. This modification is necessary to remove ambiguity that multi-gas meters may be used, subject to the order of testing prescribed in existing section 1953(a)(5)(C).

Existing section (a)(9) has been reformatted to enhance clarity and separate each listed requirement into four individual subsections. The subsection is separated into subsections for clarity.

Subsection (a)(9) replaces the undefined term “emergency services” to “emergency medical services” for clarity. The term “emergency medical services” is used in section 1512(e), defined in section 1504 and clarifies for entry employers the emergency medical service provisions required.

Subsection (a)(9) is further subdivided (new subsections A-D) for clarity. The word “for” is deleted in subsection (a)(9)(B) for clarity. The phrase “for providing necessary” in subsection (a)(9)(C) was replaced with “obtaining” for clarity. The purpose and necessity of this provision are to enhance clarity and to delineate four specific procedures to provide rescue services and emergency [medical] services.

The addition of the reference to section 1512(e) in subsection (a)(9)(C) clarifies the applicable provisions for obtaining emergency medical services for entry employers. The amendment is necessary for consistency with the provisions in sections 1955(a)(12) and 1960.

The phrase “to rescued employees” in subsection (a)(9)(C) was replaced with “for rescued employees” for clarity.

The word “for” separating subsections (C) and (D) was deleted for clarity.

Section 1955. Entry Permit.

Subsection (a)(12) amends the undefined term “emergency services” to “emergency medical services” which is defined in the CSO, section 1504 and used in section 1512(e). Section 1512(e) clarifies the emergency medical service provisions for entry employers. The amendment is necessary for consistency for sections 1953(a)(9)(C) and 1960.

Section 1956. Training.

This section contains the training requirements for permit required confined space operations.

The proposed amendment separates the provisions of the section into subsections for clarity.

Subsection (a) retains the existing requirements for training to be provided, at no cost to the employee.

The new subsection (a)(1) relocates the provisions of (a), which requires the training provided results in the understanding of the hazards in the permit space and measures employees may use to protect themselves. The purpose and necessity of this proposal are to clarify the individual goals that should result from the training described in section 1956(a).

The amendment adds subsection (a)(1)(A), a requirement for the training to result in the understanding of the written procedures. The purpose and necessity of this proposal are to clarify that the goal of training is to include an understanding of the provision of the written procedures.

The new subsection (a)(1)(B) and (a)(1)(C), are editorial corrections for consistency and clarity.

The new subsection (a)(2) relocates the provisions of subsection (a) that prohibits unauthorized entry into permit spaces for the purposes of rescue and reiterates that employees shall be trained in the dangers of attempting unauthorized rescues. The purpose and necessity of this proposal are to clarify that the existing goal of training is to include an understanding of the hazards in the permit space.

The proposed amendment is necessary to ensure that the training provided to employees includes an understanding of the written procedures, the hazards in the permit space, the methods used to isolate or control these hazards and the dangers of attempting unauthorized rescues.

Section 1960. Rescue and Emergency Services.

Section 1960 is retitled “Permit Space Rescue and Emergency Medical Services.” Rescue and Emergency Services appear overly broad and the provisions are only required for permit space operations. Moreover, replacing “Emergency Services” with “Emergency Medical Services” is necessary for consistency with the changes to subsection (c). The proposed change to the title has no regulatory effect.

A proposed new subsection (a) adds a provision for the entry employer to ensure rescue services at the site are trained, immediately available and equipped to respond to emergencies that may affect employees who enter the permit space. The amendment is necessary to preserve requirements for an onsite rescue service that would no longer be applicable given the proposed repeal of section 5156(b)(2)(A).

Re-lettered subsection (b) deletes “and emergency” for clarity, while retaining “rescue services.”

Re-lettered Note to Section 1960(a)(1) as Note to Section 1960(b)(1). The change to the note has no regulatory effect.

Re-lettered subsection (c) changes the undefined term “emergency services” to “emergency medical services,” which is defined in the CSO, section 1504 and is used in section 1512(e). Section 1512(e) clarifies what provisions for obtaining emergency medical services would be applicable. These changes are necessary to ensure employers designating rescue services provide provisions under re-lettered section 1960(b)-(d).

Subsections (d) and (e) are non-substantive formatting amendments.

The specific changes to the GISO are as follows:

Section 5156. Scope, Application and Definitions.

The proposed repeal of subsection 5156(b)(2)(A) eliminates the requirement for construction confined space operations to comply with section 5158, *Other Confined Space Operations*. The result of the repeal requires construction confined space operations to comply with CSO, article 37, sections 1950-1962 rather than both section 5158 and sections 1950-1962. The proposed change is necessary to affirm that section 5158 does not apply in instances where article 37 is applicable.

Subsections (A) through (E) are non-substantive formatting amendments.

A “NOTE” is added for clarity to direct construction employers to article 37. The proposed change is necessary to ensure employers will be directed to article 37 for confined space operations when performing construction confined space operations.

REFERENCE TO COMPARABLE FEDERAL REGULATION

The Occupational Safety and Health Standards Board (Board) is proposing this rulemaking action pursuant to Labor Code section 142.3, which mandates the Board to adopt regulations at least as effective as federal regulations addressing occupational safety and health issues.

In conformance with Government Code section 11346.9(c), the Board provides the following information. Federal OSHA promulgated regulations addressing Confined Spaces in Construction on May 4, 2015, as 29 Code of Federal Regulations, subpart AA, sections 1926.1200 through 1926.1213. The Board is relying on the explanation of the provisions of the federal regulations in Federal Register Volume 80, No. 85, Pages 25366-25526, May 4, 2015, as the justification for the Board's proposed rulemaking action.

TECHNICAL, THEORETICAL AND/OR EMPIRICAL STUDIES, REPORTS OR DOCUMENTS RELIED ON BY THE BOARD

1. American National Standard Institute (ANSI)/American Society of Safety Engineers (ASSE), A10.43-2016, *Confined Spaces in Construction and Demolition Operations*, *American National Standard for Construction and Demolition Operations*.
2. Federal Register, Vol. 80, No. 85, May 4, 2015.
3. Federal OSHA Technical Manual Section II: Chapter 3, updated February 11, 2014.
[OSHA Technical Manual \(OTM\) - Section II: Chapter 3 | Occupational Safety and Health Administration](#)
4. Federal OSHA Hazard Communication Guidance for Combustible Dusts OSHA 3371-08 2009
<https://www.osha.gov/sites/default/files/publications/3371combustible-dust.pdf>
5. National Fire Protection Association (NFPA) NFPA 654 (2006) Annex A Standard for the Prevention of Fire and Dust Explosions from the Manufacturing, Processing, and Handling of Combustible Particulate Solids.
6. Minutes of the Advisory Committee meeting held on September 6, 2017, with attendance sheets and roster.
7. California Employment Development Department, Occupational Employment Statistics and Wages (OES) – California. Updated July 18, 2022.
8. United States Census Bureau
North American Industry Classification System – Concordances
NAICS 2007 to 2012 Conversion and NAICS 2012 to 2017 Conversion.

[https://www.census.gov/naics/concordances/2012 to 2017 NAICS.xlsx](https://www.census.gov/naics/concordances/2012%20to%202017%20NAICS.xlsx)
[https://www.census.gov/naics/concordances/2007 to 2012 NAICS.xls](https://www.census.gov/naics/concordances/2007%20to%202012%20NAICS.xls)

9. United States Census Bureau
Permits by State 2022, Annual 2022
https://www.census.gov/construction/bps/xls/stateannual_202299.xls
10. United States Bureau of Economic Analysis
Regional Data GDP and Personal Income – Gross domestic product (GDP) by state:
Construction. Last updated March 31, 2023.
11. California State Controller. Government Compensation in California (2022) (accessed 2/12/2024)
State Department Detail – Transportation, Department of
<https://publicpay.ca.gov/Reports/State/StateEntity.aspx?entityid=3854&year=2022>;
(accessed 2/12/2024)
12. California State Controller. Government Compensation in California (2022)
State Department Detail – Water Resources, Department of
<https://publicpay.ca.gov/Reports/State/StateEntity.aspx?entityid=3857&year=2022>
(accessed 2/13/2024)
13. California State Human Resources.
State of California Civil Service Pay Scale, updated 2/13/2024.
14. California Employment Development Department, Labor Market Info, Size of Business Data for California (Quarterly) Table 2A Payroll and Number of Businesses by Size of Business – Classified by Industry, 2022 (Qtr 4).

These documents are available for review BY APPOINTMENT Monday through Friday from 8:00 a.m. to 4:30 p.m. at the Standards Board Office located at 2520 Venture Oaks Way, Suite 350, Sacramento, California. Appointments can be scheduled via email at oshsb@dir.ca.gov or by calling (916) 274-5721.

PETITION

This proposal was not the result of a petition.

ADVISORY COMMITTEE

This proposal was developed with the assistance of an advisory committee. (A list of advisory committee members, attendance sheets and minutes are included as Documents Relied Upon.)

FIRE PREVENTION STATEMENT

This proposal does not include fire prevention or protection standards. Therefore, approval of the State Fire Marshal pursuant to Government Code section 11359 or Health and Safety Code section 18930(a)(9) is not required.

SPECIFIC TECHNOLOGY OR EQUIPMENT

This proposal will not mandate the use of specific technologies or equipment.

ECONOMIC IMPACT ANALYSIS/ASSESSMENT

The Board has identified an economic impact on construction businesses in California. The proposal does not create any additional reporting or recordkeeping requirements. The proposal does require updates to written programs for employers whose employees enter confined spaces on construction projects. Additionally, the proposal requires information exchange where confined spaces are created as a result of construction activities.

The proposal is not expected to create or eliminate jobs within the state. The proposal is not expected to impact the creation of new businesses or the elimination of existing businesses. The proposal is not expected to impact the expansion of business doing business within the state.

BENEFITS OF THE PROPOSED ACTION

This regulatory action pertains to safe work practices for construction confined space operations. It will inform and instruct employees to a higher level of competence through training to ensure the safest possible work procedures are carried out and used from the planning stages through the completion of the project. This rulemaking proposal has no effect on the state's environment.

EVIDENCE SUPPORTING FINDING OF NO SIGNIFICANT STATEWIDE ADVERSE ECONOMIC IMPACT DIRECTLY AFFECTING BUSINESSES

The Board has made an initial determination that this proposal will not result in a significant, statewide adverse economic impact directly affecting businesses/individuals, including the ability of California businesses to compete with businesses in other states. The proposal affects construction projects within the state. The projected cost impact of \$2.0 million is less than 1 percent of California's Gross Domestic Product for construction (\$134 billion).

The costs associated with meeting these requirements are listed in Table 1.

Table 1. Costs Associated with Items Required for Proposal Compliance

Item	Costs
Update of existing written program to remove references to section 5158 and update terminology (Entry Employers Only). This cost does not repeat.	\$121,000 ¹
Informing supervisors and employees of updates to the standard. This cost does not repeat.	\$1.4 million ²
Clarification of the responsibility to seek and identify all confined spaces, including newly created and discovered, and inform employees and supervisors about confined spaces.	No Additional Costs Expected

REASONABLE ALTERNATIVES TO THE PROPOSAL AND THE BOARD'S REASONS FOR REJECTING THOSE ALTERNATIVES

One alternative was considered:

A less stringent alternative would relieve employers of the requirement to update their written program to incorporate the new terminology and would instead require making a copy of the standards available to employees.

Board staff rejected this alternative, because multiple contractors could be present at a site, and providing a copy of the standard will not guarantee that contractors will communicate or coordinate with each other, endangering employees.

No other viable alternative was identified by Board staff or the advisory committee.

¹ \$121,371

² \$1,433,451