

**OCCUPATIONAL SAFETY
AND HEALTH STANDARDS BOARD**

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ATTACHMENT NO. 3**INITIAL STATEMENT OF REASONS**

CALIFORNIA CODE OF REGULATIONS

TITLE 8: Chapter 4, Subchapter 7, Article 80, Section 4794, Article 88, Section 4848,
and Article 90, Section 4850 of the General Industry Safety Orders (GISO)

Gas and Electric Welding Systems and OperationsSUMMARY

The proposed rulemaking action was initiated at the request of the Division of Occupational Safety and Health (Division). The Division submitted a memorandum with attachments dated March 31, 2000, recommending Board staff to amend the GISO, Sections 4794 and 4850 to expand the scope of application by incorporating the definitions recognized by the American Welding Society and contained in American National Standard/American Welding Society, Standard Welding Terms and Definitions (ANSI/AWS) A3.0-94.

This rulemaking was proposed after the Division investigated a serious injury accident involving a copper water line that was being installed near a natural gas line in an excavation. An employee started to solder a water line with a welding torch when the gas flame accidentally struck the plastic gas line damaging the gas line and causing the gas to escape and ignite. The employee was subsequently burned.

The current scope of Section 4794 covers the installation and operation of gas welding and cutting systems when used with gases used with oxygen for flame cutting, heating and heat treating operations. Section 4850 specifies the regulatory requirements for installing and maintaining all electric welding equipment. Currently, Sections 4794 and 4850 do not clearly include use of gas welding and cutting systems and electrical equipment for certain welding operations, such as soldering, brazing, thermal spraying, etc. The Division proposes to amend these sections to clarify that their scopes include all operations and processes (inclusive of soldering and brazing) described in the ANSI/AWS A3.0-94 when used with these systems and equipment. Board staff agrees with the Division's proposed amendments to Sections 4794 and 4850 only to the extent that in addition to the operations and processes for gas welding, flame cutting, heating, and heat treating operations, soldering and brazing should be specifically mentioned to clarify to the employer that they are subject the regulations contained in Group 10 which include fire prevention and suppression requirements. Likewise Staff agrees that Group 11 safety orders which apply to

electric welding and related processes/operations should also be clarified to include resistance soldering and resistance brazing.

The proposed amendments will clearly indicate to the employer that the scopes of Sections 4794 and 4850 cover in addition to the operations already mentioned in the existing regulatory text in Sections 4794 and 4850, that Articles 10 and 11 include gas soldering and brazing (Article 10) and resistance soldering and brazing (Article 11) respectively.

It should be noted that reference to Title 24 in Section 4794 was deleted by an amendment filed on June 12, 1987. However, the deletion was inadvertently omitted in the subsequent publication of Section 4794. To correct this typographical error, the reference to Title 24 is being deleted from Section 4794.

American National Standard, Safety in Welding and Cutting, ANSI Z49.1-1973 is referenced in Section 4850 and has been substantially revised three times, with the latest ANSI/ASC Z49.1-94 edition taking into account the changes in welding technology that have occurred since 1973. Board staff proposes to amend Section 4850 to update ANSI Z49.1-1973 to the ANSI/ASC Z49.1-94 edition via incorporation by reference. Additionally, Board staff proposes to revise Section 4794 via incorporation by reference of the American National Standard (ANSI)/American Welding Society (AWS) A3.0-94 standard which contains state-of-the-art industry definitions describing the various types of gas welding and cutting systems that Group 10 safety orders (which includes section 4848, Fire Protection and Suppression) apply to, including soldering and brazing.

Lastly, staff proposes to amend Section 4848 to incorporate by reference the fire suppression and prevention requirements of the ANSI Z49.1-94 and NFPA 51B-1999 standards as specified in the proposal and at the same time delete unnecessary fire prevention and suppression requirements from the ANSI Z49.1-1973 standard. Staff further proposes to clarify to the employer that the requirements of Section 4848 cover gas and electric welding, soldering, brazing, etc., consistent with the proposed revisions to Sections 4794 and 4850.

SPECIFIC PURPOSE AND FACTUAL BASIS OF PROPOSED ACTION

Section 4794. Purpose

Section 4794 applies to the installation and operation of all gas welding and cutting systems and covers all gases when used with oxygen for welding, flame cutting, heating, and heat treating operations. Section 4794 fails to address use of these systems for gas welding operations such as soldering, brazing, thermal spraying, etc. A revision is, therefore, proposed to amend Section 4794 to revise its scope by including all other operations associated with gas welding and cutting systems, as described in ANSI/AWS A3.0-94, which specifically includes soldering and brazing. To clarify the scope and make it more understandable to the employer, an amendment is proposed to subdivide Section 4794 into subsections (a) and (b). The proposed revision to amend the scope of Section 4794 is necessary to clearly indicate to the employer that in addition to the

operations/processes currently addressed in Section 4794 that gas soldering and brazing as defined in ANSI/AWS A3.0-94 are also covered by.

Section 4848. Fire Prevention and Suppression Procedure.

This section requires the employer to establish a fire prevention and suppression procedure and issue instructions based on the applicable parts of ANSI Z49.1-1973, portions of which are reproduced in subsection (a) and include but are not limited to: establishing areas for welding, cutting, employee training, supervisor responsibilities, protection of combustibles, use of fire watchers, maintaining a safe distance from combustibles, etc.

Revisions are proposed to require the employer to establish a fire prevention and suppression program whenever any of the operations/processes covered under amended Sections 4794 and 4850 are conducted and further requires the employer to implement instructions based upon the specific requirements of the ANSI/ASC Z49.1-94, Chapters 3 and 6 and NFPA 51B-1999 Chapter 3 requirements, which address supervisor responsibilities for fire prevention and suppression requirements for welding, cutting and allied processes (e.g., soldering and brazing).

The proposed revisions are necessary to clarify to the employer which specific welding, cutting and allied processes must be addressed by the specified fire prevention and suppression requirements of the ANSI/ASC Z49.1-94 and NFPA 51B-1999 standards; specific chapters of which are incorporated by reference in order to protect employees who conduct any of the covered operations from the hazards of accidental fire and explosion.

Section 4850. General.

Section 4850 covers the installation and maintenance of all electric welding equipment and refers to ANSI Z49.1-1973 for additional details. However, this section does not clarify whether it applies to electric forms of soldering and brazing known as resistance soldering and resistance brazing operations performed with electric welding equipment. Therefore, a revision to Section 4850 is proposed to add a new subsection (a), which clearly specifies the scope of the section to the employer and clearly indicates that in addition to the electric welding, etc. operations covered by Article 11 regulations, resistance soldering and resistance brazing are also specifically covered. Staff proposes to incorporate by reference the definitions for resistance soldering and resistance brazing contained in the ANSI/AWS Z49.1 standard.

Further, revisions are proposed to change the existing subsection (a) to subsection (b) and to clearly indicate to the employer that all electrical welding equipment used to perform the processes defined in subsection (a) are to be installed and maintained in accordance with the California Electrical Safety Orders and Chapters 11-13 (installation and maintenance requirements) of the ANSI/ASC Z49.1-94 standard, which are incorporated by reference. A separate revision is proposed to change subsection (b) to (c). The proposed revisions are necessary to clearly specify the scope to the employer and to ensure that employers conduct electric welding, cutting, heating, etc. operations including soldering and brazing according to the

latest state-of-the-art industry safety standards to prevent employee injury that might result from burns and electric shock.

DOCUMENTS RELIED UPON

1. Memorandum with attachments from John Howard, Chief, Division of Occupational Safety and Health, dated March 31, 2000.
2. Amendment to Section 4794 filed on June 12, 1987 and operative on July 12, 1987.
3. American National Standard, Safety in Welding and Cutting, ANSI Z49.1-1973.

These documents are available for review 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.

DOCUMENTS INCORPORATED BY REFERENCE

1. American National Standards Institute/American Welding Society, Standard Welding Terms and Definitions, ANSI/AWS A3.0-94.
2. American National Standards Institute (ANSI)/ American Welding Society (AWS), Safety in Welding, Cutting and Allied Processes, Chapters 3 and 6, ANSI/ASC Z49.1-94.
3. National Fire Protection Association (NFPA) 51B-1999, Standard for Fire Prevention During Welding, Cutting and Other Hot Work, Chapter 3.

These documents are too cumbersome or impractical to publish in Title 8. Therefore, it is proposed to incorporate the documents by reference. Copies of these documents are available for review 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.

REASONABLE ALTERNATIVES THAT WOULD LESSEN ADVERSE ECONOMIC IMPACT ON SMALL BUSINESSES

No reasonable alternatives were identified by the Board and no reasonable alternatives identified by the Board or otherwise brought to its attention would lessen the impact on small businesses.

SPECIFIC TECHNOLOGY OR EQUIPMENT

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

COST ESTIMATES OF PROPOSED ACTION

Costs or Savings to State Agencies

No costs or savings to state agencies will result as a consequence of the proposed action.

Impact on Housing Costs

The Board has made an initial determination that this proposal will not significantly affect housing costs.

Impact on Businesses

The Board has made an initial determination that this proposal will not result in a significant, statewide adverse economic impact directly affecting businesses, including the ability of California businesses to compete with businesses in other states.

Cost Impact on Private Persons or Businesses

The Board is not aware of any cost impacts that a representative private person or business would necessarily incur in reasonable compliance with the proposed action.

Costs or Savings in Federal Funding to the State

The proposal will not result in costs or savings in federal funding to the state.

Costs or Savings to Local Agencies or School Districts Required to be Reimbursed

No costs to local agencies or school districts are required to be reimbursed. See explanation under "Determination of Mandate."

Other Nondiscretionary Costs or Savings Imposed on Local Agencies

This proposal does not impose nondiscretionary costs or savings on local agencies.

DETERMINATION OF MANDATE

The Occupational Safety and Health Standards Board has determined that the proposed regulations do not impose a local mandate. Therefore, reimbursement by the state is not required pursuant to Part 7 (commencing with Section 17500) of Division 4 of the Government Code because the proposed amendments will not require local agencies or school districts to incur additional costs in complying with the proposal. Furthermore, these regulations do not constitute a "new program or higher level of service of an existing program within the meaning of Section 6 of Article XIII B of the California Constitution."

The California Supreme Court has established that a "program" within the meaning of Section 6 of Article XIII B of the California Constitution is one which carries out the governmental function of providing services to the public, or which, to implement a state policy, imposes unique requirements on local governments and does not apply generally to all residents and entities in the state. (County of Los Angeles v. State of California (1987) 43 Cal.3d 46.)

These proposed regulations do not require local agencies to carry out the governmental function of providing services to the public. Rather, the regulations require local agencies to take certain

steps to ensure the safety and health of their own employees only. Moreover, these proposed regulations do not in any way require local agencies to administer the California Occupational Safety and Health program. (See City of Anaheim v. State of California (1987) 189 Cal.App.3d 1478.)

These proposed regulations do not impose unique requirements on local governments. All employers - state, local and private - will be required to comply with the prescribed standards.

EFFECT ON SMALL BUSINESSES

The Board has determined that the proposed amendments may affect small businesses.

ASSESSMENT

The adoption of the proposed amendments to these regulations will neither create nor eliminate jobs in the State of California nor result in the elimination of existing businesses or create or expand businesses in the State of California.

ALTERNATIVES THAT WOULD AFFECT PRIVATE PERSONS

No reasonable alternatives have been identified by the Board or have otherwise been identified and brought to its attention that would be more effective in carrying out the purpose for which the action is proposed or would be as effective and less burdensome to affected private persons than the proposed action.