

**OCCUPATIONAL SAFETY  
AND HEALTH STANDARDS BOARD**

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**NOTICE OF PUBLIC MEETING/PUBLIC HEARING/BUSINESS MEETING  
OF THE OCCUPATIONAL SAFETY AND HEALTH STANDARDS BOARD  
AND NOTICE OF PROPOSED CHANGES TO TITLE 8  
OF THE CALIFORNIA CODE OF REGULATIONS**

Pursuant to Government Code Section 11346.4 and the provisions of Labor Code Sections 142.1, 142.2, 142.3, 142.4, and 144.6, the Occupational Safety and Health Standards Board of the State of California has set the time and place for a Public Meeting, Public Hearing, and Business Meeting:

**PUBLIC MEETING:** On **July 16, 2009**, at 10:00 a.m.  
in the Carmel Room of the Junipero Serra State Building,  
320 West 4th Street, Los Angeles, California 90013.

At the Public Meeting, the Board will make time available to receive comments or proposals from interested persons on any item concerning occupational safety and health.

**PUBLIC HEARING:** On **July 16, 2009**, following the Public Meeting,  
in the Carmel Room of the Junipero Serra State Building,  
320 West 4th Street, Los Angeles, California 90013.

At the Public Hearing, the Board will consider the public testimony on the proposed changes to occupational safety and health standards in Title 8 of the California Code of Regulations.

**BUSINESS MEETING:** On **July 16, 2009**, following the Public Hearing,  
in the Carmel Room of the Junipero Serra State Building,  
320 West 4th Street, Los Angeles, California 90013.

At the Business Meeting, the Board will conduct its monthly business.

**DISABILITY ACCOMMODATION NOTICE:** Disability accommodation is available upon request. Any person with a disability requiring an accommodation, auxiliary aid or service, or a modification of policies or procedures to ensure effective communication and access to the public hearings/meetings of the Occupational Safety and Health Standards Board should contact the Disability Accommodation Coordinator at (916) 274-5721 or the state-wide Disability Accommodation Coordinator at 1-866-326-1616 (toll free). The state-wide Coordinator can also be reached through the California Relay Service, by dialing 711 or 1-800-735-2929 (TTY) or 1-800-855-3000 (TTY-Spanish).

Accommodations can include modifications of policies or procedures or provision of auxiliary aids or services. Accommodations include, but are not limited to, an Assistive Listening System (ALS), a Computer-Aided Transcription System or Communication Access Realtime Translation (CART), a sign-language interpreter, documents in Braille, large print or on computer disk, and audio cassette recording. Accommodation requests should be made as soon as possible. Requests for an ALS or CART should be made no later than five (5) days before the hearing.

**OCCUPATIONAL SAFETY AND HEALTH  
STANDARDS BOARD**

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JOHN D. MACLEOD, Chairman

NOTICE OF PROPOSED CHANGES TO TITLE 8  
OF THE CALIFORNIA CODE OF REGULATIONS  
BY THE OCCUPATIONAL SAFETY AND HEALTH STANDARDS BOARD

Notice is hereby given pursuant to Government Code Section 11346.4 and Labor Code Sections 142.1, 142.4 and 144.5, that the Occupational Safety and Health Standards Board pursuant to the authority granted by Labor Code Section 142.3, and to implement Labor Code Section 142.3, will consider the following proposed revisions to Title 8, Low-Voltage Electrical Safety Orders and General Industry Safety Orders of the California Code of Regulations, as indicated below, at its Public Hearing on **July 16, 2009**.

1. TITLE 8:     **LOW-VOLTAGE ELECTRICAL SAFETY ORDERS**  
Division 1, Chapter 4, Subchapter 5, Article 11  
Section 2395.6  
**Portable and Vehicle-Mounted Generators**
  
2. TITLE 8:     **GENERAL INDUSTRY SAFETY ORDERS**  
Division 1, Chapter 4, Subchapter 7, Article 154  
Sections 6070, 6074, 6075, 6080, 6085, 6087, 6089, 6090, 6100, 6115, and  
6120, and Appendices A and B  
**Pressurized Worksite Operations**

Descriptions of the proposed changes are as follows:

1. **TITLE 8: LOW-VOLTAGE ELECTRICAL SAFETY ORDERS**  
Division 1, Chapter 4, Subchapter 5, Article 11  
Section 2395.6  
**Portable and Vehicle-Mounted Generators**

### **INFORMATIVE DIGEST OF PROPOSED ACTION/POLICY STATEMENT OVERVIEW**

This proposed rulemaking was initiated as the result of stakeholder input to the effect that the recently adopted verbiage of Section 2395.6 was unduly restrictive. Section 2395.6(a) existing prior to the May 5, 2008, amendments, contained a grounding exception for portable or vehicle-mounted generators rated not more than 5 KW. The earlier standard provided that “under the following conditions, the frame of a portable or a vehicle-mounted generator need not be grounded and shall be permitted to serve as the grounding electrode for a system supplied by the generator:

- (1) The noncurrent-carrying metal parts of equipment located on the vehicle and the equipment grounding conductor terminals of the receptacles are bonded to the generator or vehicle frame, and
- (2) The generator supplies only equipment located on the vehicle or the generator and/or cord- and plug-connected equipment through receptacles mounted on the vehicle or on the generator, and
- (3) The frame of a vehicle-mounted generator is bonded to the vehicle frame, or [*underline added for emphasis*]
- (4) The generator is single-phase, portable or vehicle-mounted, rated not more than 5 KW, and the circuit conductors of the generator are insulated from the generator frame and all other grounded surfaces.”

The May 5, 2008, modification reworded and reformatted Section 2395.6 consistent with federal standards, 29 CFR 1910.304(g)(3)(i) and (ii) as Subsections (a) and (b). However, because the federal wording did not refer to 5 KW portable and vehicle-mounted generators, an existing state provision was retained as an additional condition for systems supplied by portable and/or vehicle mounted generators. However, this inclusion, appended with an “and” rather than an “or” had an unintended consequence of defining portable and vehicle-mounted generators as being not more than 5 KW, thus creating a very restrictive requirement, beyond the provisions of the existing state standard and the counterpart federal standard which contains no reference to 5 KW portable or vehicle-mounted generators.

A stakeholder comment brought this matter to the Board’s attention. In the process of reviewing and researching the genesis of this change, Board staff ascertained from the preamble for the federal rulemaking that the federal omission of the 5 KW generator exception was deliberate, as explained on page 7159 of the Federal Register<sup>1</sup>. Based on the federal rationale, it has been determined that retention of the provision for 5 KW generators as an exception would be inconsistent with the National Electrical Code and the federal standards. The Board, therefore proposes to delete the 5 KW generator subsections from the standard.

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<sup>1</sup> Federal Register, Vol. 72, No. 30, dated Wednesday, Feb. 14, 2007, Department of Labor (OSHA), 29 CFR Part 1910, Electrical Standard, page 7159.

## **Section 2395.6. Portable and Vehicle-Mounted Generators.**

### **Subsection (a).**

This subsection for portable generators provides that the frame of a portable generator need not be grounded and may serve as the grounding electrode for a system supplied by the generator under the following conditions:

- (1) The generator supplies only equipment mounted on the generator or cord- and plug-connected equipment through receptacles mounted on the generator, or both; and
- (2) The noncurrent-carrying metal parts of equipment and the equipment grounding conductor terminals of the receptacles are bonded to the generator frame, and [*underline added for emphasis*]
- (3) The generator is single-phase, portable, rated not more than 5 KW, and the circuit conductors of the generator are insulated from the generator frame and all other grounded surfaces.

It is proposed to delete subsection (a)(3). The effect of this change will be to correct a modification which inadvertently made the new standard more limiting than federal standards and more restrictive than the state standard existing prior to May 5, 2008. This deletion will also conform California grounding standards for portable and vehicle-mounted generators to counterpart federal standards.

### **Subsection (b).**

This subsection for vehicle-mounted generators provides that the frame of a vehicle need not be grounded and may serve as the grounding electrode for a system supplied by a generator located on the vehicle under the following conditions:

- (1) The frame of the generator is bonded to the vehicle frame, and
- (2) The generator supplies only equipment located on the vehicle and cord- and plug-connected equipment through receptacles mounted on the vehicle, and
- (3) The noncurrent-carrying metal parts of equipment and the equipment grounding conductor terminals of the receptacles are bonded to the generator frame, and
- (4) The system complies with all other provisions of Article 11 of these Low-Voltage Electrical Safety Orders, and [*underline added for emphasis*]
- (5) The generator is single-phase, vehicle-mounted, rated not more than 5 KW, and the circuit conductors of the generator are insulated from the generator frame and all other grounded surfaces.

It is proposed to delete subsection (b)(5). The effect of this change will be to correct a modification which inadvertently made the new standard more limiting than federal standards and more restrictive than the state standard existing prior to May 5, 2008. This deletion will also conform California grounding standards for portable and vehicle-mounted generators to counterpart federal standards.

## **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 standard does 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.

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.)

The proposed standard does not require local agencies to carry out the governmental function of providing services to the public. Rather, the standard requires local agencies to take certain steps to ensure the safety and health of their own employees only. Moreover, this proposed standard does 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.)

The proposed standard does not impose unique requirements on local governments. All state, local and private employers 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. However, no economic impact is anticipated.

### **ASSESSMENT**

The adoption of the proposed amendments to this standard 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.

### **REASONABLE ALTERNATIVES CONSIDERED**

Our Board must determine that no reasonable alternative considered by the Board or that has otherwise been identified and brought to the attention of the Board would be more effective in carrying out the purpose for which the action is proposed or would be as effective as and less burdensome to affected private persons than the proposed action.

2. **TITLE 8:** **GENERAL INDUSTRY SAFETY ORDERS**  
Division 1, Chapter 4, Subchapter 7, Article 154  
Sections 6070, 6074, 6075, 6080, 6085, 6087, 6089, 6090, 6100, 6115, and  
6120, and Appendices A and B  
**Pressurized Worksite Operations**

### **INFORMATIVE DIGEST OF PROPOSED ACTION/POLICY STATEMENT OVERVIEW**

This rulemaking was initiated in response to a request from the Mining and Tunneling Unit of the Division of Occupational Safety and Health (Division) to update the decompression tables in Article 154 (OSHA decompression tables) which apply to tunneling operations where work is performed in a compressed air environment. An unacceptably high incidence of decompression sickness has been reported where the OSHA decompression tables were used on compressed air tunneling projects. The industry has discontinued the use of the OSHA decompression tables in favor of more up-to-date decompression tables which employ the use of oxygen breathing gas during decompression. The use of these newer tables has greatly reduced the incidence of decompression sickness.

This proposed rulemaking action contains numerous non-substantive, editorial, reformatting of subsections, and grammatical revisions. These non-substantive revisions are not all discussed in this Informative Digest. However, these proposed revisions are clearly indicated in the regulatory text in underline and strikeout format. In addition to these non-substantive revisions, the following actions are proposed:

### **Section 6070. Application.**

**Section 6070** provides guidance on the application of the standards in Article 154, Pressurized Worksite Operations. The proposal would add the word “environment” to indicate that Article 154 applies to work in a “compressed air environment.” That term is defined in Section 6074. The effect of this proposed revision is to improve clarity.

### **Section 6074. Definitions.**

**Section 6074** provides definitions of terms used in Article 154. The proposal would delete the definition of “Normal Condition” because that term is proposed to be deleted from Section 6085 and would no longer appear in Article 154. Proposed Section 6085 would replace the reference to the decompression table for normal conditions in Appendix A with a reference to the decompression tables in Chapter 9 of the U.S. Navy Diving Manual – Revision 6 which would be incorporated by reference. The effect of this proposed revision is to be consistent with the use of the decompression tables incorporated by reference in proposed Section 6085.

A new definition of “Supervising Physician” is proposed to be added. The text of the definition is substantively the same as the text that is proposed to be deleted from Section 6120(a)(1). That text and the terms “retained physician” and “appointed physician” which are used in Article 154 would be replaced with “supervising physician.” The effect of this proposed revision is to improve clarity and consistency.

### **Section 6075. General Provisions.**

**New Section 6075(c)** would require that employees who are exposed to or control the exposure of others to hyperbaric conditions shall be trained in hyperbaric related physics and physiology, recognition of pressure related injuries, and how to avoid discomfort during compression. The advisory committee convened to consider amendments to Article 154 recommended that training requirements be added to require employees be provided information on the cause, signs and symptoms of decompression sickness. This training is necessary because some employees may have no prior experience working in compressed air environments and are unfamiliar with the hazards. When employees understand the purpose and importance of detailed decompression procedures, they are more likely to follow the procedures. Employees must also be able to recognize the signs and symptoms of decompression sickness so that appropriate treatment can be provided. Training on how to avoid discomfort during decompression prevents discomfort such as middle ear pain which could lead to injury if pressure in the middle ear is not correctly equalized with the outside pressure. The effect of this proposed revision is to be at least as effective as the training requirements in Section 1926.803(e)(1) of the counterpart federal standard.

### **Section 6080. Compression Rate.**

The proposal would delete the word “Rate” from the section title because subsection (b) of this section pertains to the maximum pressure and not the compression rate. The effect of this proposed revision is to improve clarity.

**Section 6080(b)** prohibits subjecting an employee to pressure exceeding 50 pounds per square inch (psi) except in an emergency. The proposal would add an exception to the prohibition which would allow work in pressure exceeding 50 psi when approved by the Division. The effect of this proposed

exception is to permit tunneling operations which are performed at depths that require employees to work in pressure greater than 50 psi.

The proposal would also add a note to Section 6080(b) that would refer the reader to the exception to Section 6085 which provides that decompression tables used for pressure exceeding 50 psi may be used if recommended by the supervising physician and approved by the Division for use at the worksite. The effect of this proposed note is to refer the reader to additional requirements related to work at pressure exceeding 50 psi.

The proposal would add an exception which would exempt employers from the requirements of subsections (a) and (b) in an emergency. The effect of this proposed exemption is to allow an employee with decompression illness or an employee who is exposed to an unplanned rapid decompression to be immediately re-compressed at a rate or pressure which exceeds that specified in subsections (a) and (b).

### **Section 6085. Decompression for Normal Conditions.**

The proposal would re-title the section “Decompression of Employees”. The effect of this proposed revision is to broaden the scope of the section to address a variety of conditions other than “normal conditions”, such as repetitive exposure conditions, work at altitude, and ascent to altitude after decompression.

**Section 6085** requires that decompression for normal conditions be in accordance with the decompression tables in Appendix A. Section 6085 would be renumbered to Section 6085(a). New Section 6085(a) would be amended to replace the reference to the tables in Appendix A with a reference to the decompression tables in Volume 2, Chapter 9 of the U.S. Navy Diving Manual – Revision 6 which would be incorporated by reference. Section 6085(a) would require that decompression be in accordance with the decompression tables specified in subsections (a)(1) to (a)(6). Proposed Exception No. 1 would allow employees to be decompressed in an emergency according to the supervising physician’s recommended decompression procedures. Proposed Exception No. 2 would allow the use of alternative decompression tables when recommended by the supervising physician and approved by the Division. The dive tables in subsections (a)(1) to (a)(6) would specify which of the tables in the referenced Chapter 9 are to be used based on the conditions surrounding an employee’s exposure to a compressed air environment. The proposal would delete Appendix A and, in effect, replace the dive tables in Appendix A with the decompression table referenced in proposed subsection (a)(2).

The effect of this revision is to update the current decompression tables which are outdated and do not provide adequate protection for employees from decompression sickness. The proposed revision is at least as effective as the counterpart federal standard 29 CFR 1926.803. The decompression tables for normal conditions in Appendix A of Article 154 and in Appendix A of 29 CFR 1926.803 are substantively the same. These tables are commonly referred to as the OSHA decompression tables. The federal standards include decompression tables for normal conditions, but not tables for other conditions such as the tables for repetitive exposure conditions in Appendix B of Article 154.

Revision 6 of the U.S. Navy Diving Manual was published on April 15, 2008. The decompression procedures in Chapter 9 of the manual replace the air decompression procedures that have been in use by the Navy for more than fifty years. These new procedures are considered safer and more flexible than the older procedures, primarily because oxygen is used during decompression to accelerate elimination of excess nitrogen from the body. The advisory committee, which was convened to consider updating the decompression tables in Article 154, considered several recently developed decompression

tables that use oxygen during decompression. The committee unanimously recommended replacing the current OSHA tables with the new decompression tables in Revision 6 of the U.S. Navy Diving Manual.

The proposal would add a note to proposed Section 6085(a) to inform the reader that Revision 6 of the U.S. Navy Diving Manual is available on the internet. The effect of this proposed note is to inform the reader how the document which is incorporated by reference may be obtained.

**New Section 6085(a)(1)** would be added to specifically reference the No-Decompression Limits and Repetitive Group Designation Table for No-Decompression Air Dives, Table 9-7. The effect of this proposed revision is to specify the decompression table to be used to determine the no-decompression limits and the repetitive group designators for work in a compressed air environment that does not require decompression.

**New Section 6085(a)(2)** would be added to specifically reference the Air Decompression Table – Table 9-9. The effect of this proposed revision is to specify the table that shall be used to determine the decompression schedules and repetitive group designators for work in a compressed air environment that requires decompression.

**New Section 6085(a)(3)** would be added to specifically reference the Residual Nitrogen Timetable for Repetitive Air Dives - Table 9-8. The effect of this revision is to specify the table that shall be used to determine the Residual Nitrogen Time for an employee who has some residual nitrogen in his/her system when beginning work in a compressed air environment.

**New Section 6085(a)(4)** would be added to specifically reference the Sea Level Equivalent Depth – Table 9-4. The effect of this proposed revision is to specify the table that shall be used to correct the sea level decompression tables for use at altitudes of 1,000 feet above sea level and higher.

**New Section 6085(a)(5)** would be added to specifically reference the Repetitive Groups Associated with Initial Ascent to Altitude - Table 9-5. The effect of this proposed revision is to specify the table that shall be used to adjust decompression schedules when an employee who is not fully equilibrated at altitude begins work in a compressed air environment.

**New Section 6085(a)(6)** would be added to specifically reference the Required Surface Interval Before Ascent to Altitude After Diving - Table 9-6. The effect of this proposed revision is to specify the table that shall be used to determine when it is safe for an employee to fly or ascend to higher altitude after performing work in a compressed air environment.

**New Section 6085(b), (b)(1) and (b)(2)** would be added to instruct the reader how to apply the referenced U.S. Navy decompression tables to a non-diving operation, such as work in compressed air, and to specify restrictions on the use of the decompression tables. As provided in the exceptions to Section 6085, the restrictions in subsection (b)(2) regarding the use of the referenced air decompression table do not apply in an emergency or when following decompression procedures recommended by the supervising physician and approved by the Division in accordance with the conditions specified in the exceptions. The effect of these proposed revisions is to provide guidance on the use of the reference decompression tables.

**New Section 6085(b)(1)** would require employers to use the decompression tables specified in Sections 6085(a)(1) to (a)(6) in accordance with the rules, instructions and examples in Chapter 9 of the referenced U.S. Navy Diving Manual that apply to the tables. It would also require employers to use

applicable scientific principles when applying the diving related terms, definitions and units of measure used in Chapter 9 to a non-diving operation such as work in compressed air. The proposal would provide a conversion factor for converting FSW to psi. The effect of this proposed revision is to instruct the reader how to apply the referenced U.S. Navy dive tables to a non-diving operation such as work in compressed air.

**New Section 6085(b)(2)(A)** would prohibit the use of Table 9-9 for pressures exceeding 50 psi(g) unless recommended by the supervising physician and approved by the Division. The proposal is consistent with amended Section 6080(b) and the recommendations of the advisory committee. The effect of this proposed revision is to provide an additional measure of medical and regulatory review of decompression procedures for pressures above 50 psi which present an increased risk of decompression sickness.

**New Section 6085(b)(2)(B)** would prohibit the use of Table 9-9 for pressures greater than 190 FSW. The advisory committee recommended that Table 9-9 not be used for pressure exceeding 190 FSW to prevent nitrogen narcosis. The effect of this proposed revision is to prevent nitrogen narcosis.

**New Section 6085(b)(2)(C)** would require a gas mix of air and oxygen (AIR/O<sub>2</sub>) to be used when the table indicates a gas mix of either AIR or AIR/O<sub>2</sub> may be used but recommends using a gas mix of AIR/O<sub>2</sub>. The effect of this proposed revision is to provide an additional measure of safety to reduce the risk of decompression sickness.

**New Section 6085(b)(2)(D)** would prohibit surface decompression (decanting). The effect of this proposed revision is to provide protection for employees that is at least as effective as the federal standard, CFR 1926.803(f)(3) which permits decanting only when necessary and then only after the supervising physician has established procedures for decanting.

**New Section 6085(b)(2)(E)** would prohibit the use of Table 9-9 for a bottom time and pressure that is designated an Exceptional Exposure in the table. The risk of decompression sickness and/or oxygen toxicity is substantially greater for Exceptional Exposure conditions than for work at lower pressures and shorter bottom times. The effect of this proposed revision is to reduce the risk of decompression sickness and oxygen toxicity.

**New Section 6085(b)(2)(F)** would require the compression rate to be in accordance with Section 6080(a). Section 6080(a) provides a specific compression rate which is slower than the 75 feet per minute (FPM) descent rate designated in Table 9-9. The slower compression rate provides an opportunity to determine if an employee is experiencing discomfort such as middle ear pain which could lead to injury if compression proceeds at too fast a rate. The effect of this proposed revision is to prevent discomfort or injury from compressing at too fast a rate and to avoid conflict between the decompression rate specified in Section 6080(a) and the descent rate designated in Table 9-9.

**New EXCEPTION No. 1 to Section 6085** would exempt employers from the provisions of subsections (a) and (b)(2) in an emergency provided that employees are decompressed in accordance with decompression tables and procedures recommended by the supervising physician. Exception No. 1 to Section 6085 would permit decanting in an emergency following the recommendations of the supervising physician. In an emergency, it may be necessary to recompress employees to prevent decompression sickness, treat decompression sickness, or treat other injuries. The appropriate decompression procedures for a particular emergency may not comply with the specific requirements of Section 6085. In an emergency it may be necessary to recompress employees to prevent decompression

sickness, treat decompression sickness, or treat other injuries. The appropriate decompression procedures for a particular emergency may not comply with the specific requirements of Section 6085.

The effect of the proposed exemption is to allow the supervising physician to recommend appropriate decompression procedures to be followed in an emergency.

**New EXCEPTION No. 2 to Section 6085** would exempt employers from having to comply with the decompression tables specified in subsection (a) or with the conditions specified in subsection (b)(2) for use of Air Decompression Table 9-9, provided the employer complies with decompression tables and procedures that have been recommended by the supervising physician in writing and approved by the Division for use at the worksite. When requested by the Division, the employer would be required to provide evidence demonstrating that the alternative tables and procedures are as effective as the U.S. Navy decompression tables referenced in this subsection. Exception No. 2 would permit decanting when conducted in accordance with decompression tables recommended by the physician and approved by the Division. The Division may require evidence that the recommended surface decompression procedures are as effective as those in Revision 6 of the referenced U.S. Navy Diving Manual.

The effect of the proposed exception is to allow needed flexibility because it is anticipated that some compressed air work may exceed the pressures and bottom times covered by the tables specified in subsection (a) and/or the limitations placed on their use by subsection (b)(2). For example, some tunneling operations are performed at depths that require employees to work in pressure exceeding 50 psi which is the maximum allowed by subsection (b)(2)(B).

#### **Section 6087. Decompression After Repetitive Exposures.**

**Section 6087** requires that the appointed physician establish procedures for decompression for repetitive exposures and refers to the tables and instructions in Appendix B. The tables in Appendix B were adapted from U.S. Navy Diving Tables which have been superseded by Table 9-8 in Revision 6 of the U.S. Navy Diving Manual. Appendix B allows the Division to accept alternate methods of decompression for repetitive exposures provided the licensed physician submits the proposed procedure to the Division for its review and approval.

The proposal would delete Section 6087, the reference to Appendix B, and Appendix B. The proposal would address decompression for repetitive exposures in amended Section 6085(a)(3). That Section would require decompression be conducted in accordance with the Residual Nitrogen Timetable for Repetitive Air Dives - Table 9-8 which is incorporated by reference. Proposed Exemption No. 2 to Section 6085 would allow the employer to implement alternative decompression procedures that have been recommended by the supervising physician and approved by the Division. The effect of this proposed revision is to protect employees from repetitive exposure to compressed air environments because the out-dated decompression tables for repetitive exposures in Appendix B do not adequately protect employees from decompression sickness.

#### **Section 6089. Decompression by Decanting.**

**Section 6089** requires that, if decanting is necessary, the appointed physician shall establish procedures for decompression; and that no more than 5 minutes shall elapse between decompression and recompression. The proposal would delete Section 6089 and add exceptions to Section 6085 discussed prior. The effect of the proposed revision is to ensure that decanting is not performed except in an

emergency in accordance with the supervising physician's recommendations; or when following decompression procedures recommended by the physician in writing and approved by the Division.

### **Section 6090. Air Locks.**

**Section 6090(a)** prohibits an employee passing from a compressed air environment to atmospheric pressure without being decompressed in accordance with the procedures in Appendix A, Appendix B or Section 6089. The proposal would replace the decompression procedures in Appendix A, Appendix B, and Section 6089 with the decompression procedures in revised Section 6085. Because all of the decompression procedures have been relocated to Section 6085, the proposal would revise the reference in Section 6090(a) to reference Section 6085. The effect of this proposed revision is to provide an internal reference to the section where the decompression procedures have been relocated.

### **Section 6100. Temperature, Illumination, Sanitation and Ventilation.**

**Section 6100(e)** provides that ventilation in the locks and chambers, with the exception of the medical chamber, shall be such that the air quality meets the requirement of Section 5144(e). Section 5144 is the Respiratory Protection standard. In 1998, Section 5144 was renumbered to Section 5147 and a new Section 5144 was adopted to be at least as effective as the new federal respiratory protection standard. Section 5147 has since been repealed. Prior to the adoption of the new Section 5144 in 1998, subsection (e) pertained to air quality. When the new standard was adopted in 1998 the provisions regarding air quality were relocated to subsection (i). The internal reference in Section 6100(e) to the air quality requirements in Section 5144 was not revised to reflect the relocation of these requirements from subsection (e) to subsection (i). The proposed amendment would change this reference from Section 5144(e) to Section 5144(i). The effect of this proposed revision is to re-establish the appropriate reference to the air quality requirements for breathing air in the respiratory protection standard.

**New Section 6100(i)** would require that when an oxygen breathing gas system is used during decompression, the employer shall take one, or both, of the following steps to ensure that the concentration of oxygen inside the chamber or lock does not exceed twenty five percent (25%) by volume: (1) The oxygen breathing gas system shall capture the oxygen that is not consumed by the user and directly exhaust it to a well ventilated area outside of the lock or chamber; or (2) An oxygen meter shall be used to continuously monitor the oxygen concentration inside the chamber or lock. The purpose of ensuring that the oxygen concentration does not exceed 25% is to prevent creating an atmosphere that increases the fire hazard. The purpose of the revision regarding the oxygen breathing gas system is to require an overboard dump system that exhausts the occupant's expired breathing gases to prevent a build up of oxygen inside the chamber or lock. The purpose of the oxygen monitor is to immediately alert the lock or chamber attendant of an increase in the oxygen concentration above 23.5%. The effect of the proposed amendments is to ensure that the use of oxygen during decompression does not increase the fire hazard.

### **Section 6115. Fire Protection.**

**New Section 6115(i)** would require that equipment used with oxygen mixtures > 40% would be designed and maintained for oxygen service; be free from oil, grease and combustible materials; have slow-opening shut-off valves; and be protected from physical damage. The effect of revised subsection (i)(1) is to prevent fires or other hazardous reactions that may occur from the use of equipment or materials that are incompatible with oxygen. The effect of revised subsection (i)(2) is to prevent oxygen from igniting combustible materials. The effect of revised subsection (i)(3) is to prevent fires caused by

particle impact ignition resulting from rapidly opening a valve on a compressed oxygen cylinder. The effect of revised subsection (i)(4) is to prevent fires from the accidental release of compressed oxygen.

### **Section 6120. Medical Control.**

**Section 6120(a)(1)** requires that the employer retain 1 or more physicians licensed in the State of California familiar with and experienced in the physical requirements for the medical aspects of compressed air work. The proposal would keep the requirement for the employer to retain a physician and replace the text which specifies the qualifications of the physician with the term “supervising physician.” The proposal would add a new definition in Section 6074(b) for “supervising physician” which would be defined as a physician licensed in the State of California who is familiar with and experienced in the physical requirements for the medical aspects of work in compressed air environments. The effect of this proposed revision is to improve clarity and consistency.

**Section 6120(a)(3)** which requires that an oxygen tolerance test shall be passed by all persons engaged in compressed air work is proposed for deletion because the advisory committee considered this requirement to be unreliable. Subsections (a)(4) and (a)(5) would be renumbered to subsections (a)(3) and (a)(4) to maintain the sequential number of the subsections. The effect of this proposed revision would be to eliminate the requirement for the oxygen tolerance test which is unreliable.

**Section 6120(b)(13)** requires that the medical chamber shall be in constant charge of an attendant under the direct control of the retained physician. The proposal would replace the term “retained physician” with the term “supervising physician.” The effect of this proposed revision is to improve clarity and consistency.

**Appendix A** contains Decompression Tables No. 1 and No. 2 and an explanation of the tables. The proposal would delete Appendix A in its entirety and instead rely on the tables and instructions incorporated by reference in Section 6085. The effect of this proposed revision is to replace the decompression tables with the updated U.S. Navy decompression tables in Chapter 9 of the U.S. Navy Diving Manual - Revision 6 which is incorporated by reference.

**Appendix B** contains Decompression Tables No. 3, No. 4 and No. 5 and an explanation of the tables which are used for repetitive exposure to compressed air environments. The proposal would delete Appendix B in its entirety and instead rely on the tables and instructions incorporated by reference in Section 6085. The effect of this proposed revision is to update the decompression tables in Appendix B with the updated U.S. Navy decompression tables in Chapter 9 of the U.S. Navy Diving Manual - Revision 6 which is incorporated by reference.

### **DOCUMENTS INCORPORATED BY REFERENCE**

- Volume 2, Chapter 9, Air Decompression, U.S. Navy Diving Manual, Revision 6, April 15, 2008.

This document is too cumbersome or impractical to publish in Title 8. Therefore, it is proposed to incorporate the document by reference. Copies of this document 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.

## **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. The cost impact of the proposal on business was considered at the June 30, 2008, advisory committee meeting and the committee agreed that any potential increase in cost would be off set by savings. Mr. Kevan Corson said that there may be costs associated with the safety equipment and procedures required when oxygen is used for decompression; however there would be cost savings from using oxygen because it would reduce decompression time. Reducing the decompression time could eliminate the need for a special decompression chamber which is required when the total decompression time exceeds 75 minutes. Dr. Van Hoesen said that costs associated with the hyperbaric treatment of employees for decompression sickness would be reduced because the revised decompression tables will result in fewer cases. She noted that these savings could be substantial.

### **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 standards 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 standards 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 standards do not require local agencies to carry out the governmental function of providing services to the public. Rather, the standards require local agencies to take certain steps to ensure the safety and health of their own employees only. Moreover, these proposed standards 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 standards do not impose unique requirements on local governments. All employers - state, local and private - will be required to comply with the prescribed standards. Local agencies will be required to comply with the proposal and thereby incur some costs. These costs may be required to be reimbursed by the state pursuant to Part 7 (commencing with Section 17500) of Division 4 of the Government Code.

### **EFFECT ON SMALL BUSINESSES**

The Board has determined that the proposed amendments may affect small businesses. However, no economic impact is anticipated.

### **ASSESSMENT**

The adoption of the proposed amendments to these standards 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.

### **REASONABLE ALTERNATIVES CONSIDERED**

Our Board must determine that no reasonable alternative considered by the Board or that has otherwise been identified and brought to the attention of the Board would be more effective in carrying out the purpose for which the action is proposed or would be as effective as and less burdensome to affected private persons than the proposed action.

A copy of the proposed changes in STRIKEOUT/UNDERLINE format is available upon request made to the Occupational Safety and Health Standard Board’s Office, 2520 Venture Oaks Way, Suite 350, Sacramento, CA 95833, (916) 274-5721. Copies will also be available at the Public Hearing.

An INITIAL STATEMENT OF REASONS containing a statement of the purpose and factual basis for the proposed actions, identification of the technical documents relied upon, and a description of any identified alternatives has been prepared and is available upon request from the Standards Board’s Office.

Notice is also given that any interested person may present statements or arguments orally or in writing at the hearing on the proposed changes under consideration. It is requested, but not required, that written comments be submitted so that they are received no later than July 10, 2009. The official record of the rulemaking proceedings will be closed at the conclusion of the public hearing and written comments received after 5:00 p.m. on July 16, 2009, will not be considered by the Board unless the Board announces an extension of time in which to submit written comments. Written comments should be mailed to the address provided below or submitted by fax at (916) 274-5743 or e-mailed at [oshsb@dir.ca.gov](mailto:oshsb@dir.ca.gov). The Occupational Safety and Health Standards Board may thereafter adopt the above proposals substantially as set forth without further notice.

The Occupational Safety and Health Standards Board's rulemaking file on the proposed actions including all the information upon which the proposals are based are open to public inspection Monday through Friday, from 8:30 a.m. to 4:30 p.m. at the Standards Board's Office, 2520 Venture Oaks Way, Suite 350, Sacramento, CA 95833.

The full text of proposed changes, including any changes or modifications that may be made as a result of the public hearing, shall be available from the Executive Officer 15 days prior to the date on which the Standards Board adopts the proposed changes.

Inquiries concerning either the proposed administrative action or the substance of the proposed changes may be directed to Marley Hart, Executive Officer, or Michael Manieri, Principal Safety Engineer, at (916) 274-5721.

You can access the Board's notice and other materials associated with this proposal on the Standards Board's homepage/website address which is <http://www.dir.ca.gov/oshsb>. Once the Final Statement of Reasons is prepared, it may be obtained by accessing the Board's website or by calling the telephone number listed above.

OCCUPATIONAL SAFETY AND HEALTH  
STANDARDS BOARD

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JOHN D. MACLEOD, Chairman

NOTICE OF ADOPTION OF  
REGULATIONS  
INTO TITLE 8, CALIFORNIA CODE OF REGULATIONS  
BY THE  
OCCUPATIONAL SAFETY AND HEALTH STANDARDS BOARD

After proceedings held in accordance with and pursuant to the authority vested in Sections 142, 142.3 and 142.4, of the Labor Code to implement, interpret, or make specific, the Occupational Safety and Health Standards Board, by a majority vote, adopted additions, revisions, or deletions to the California Code of Regulations as follows:

1. Title 8, Division 1, Chapter 4, Subchapter 7, General Industry Safety Orders, Article 69, Section 4530, **Bakery Ovens—Inspections.**

Heard at the June 19, 2008, Public Hearing; adopted on March 19, 2008; filed with the Secretary of State on May 1, 2009; and will become effective on May 31, 2009.

Copies of this standard are available upon request from the Occupational Safety and Health Standards Board, 2520 Venture Oaks Way, Suite 350, Sacramento, CA 95833, (916) 274-5721.

If you have Internet access, visit the Occupational Safety and Health Standards Board by going to: **<http://www.dir.ca.gov/oshb>** and follow the links to the Standards Board. This information is updated monthly. The Standards Board's e-mail address is: **[oshb@dir.ca.gov](mailto:oshb@dir.ca.gov)**.

OCCUPATIONAL SAFETY AND HEALTH  
STANDARDS BOARD

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Marley Hart, Executive Officer