OCCUPATIONAL SAFETY
AND HEALTH STANDARDS BOARD
2520 Venture Oaks Way, Suite 350
Sacramento, CA 95833
(916) 274-5721
FAX (916) 274-5743
www.dir.ca.gov/oshsb

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 **February 17, 2011,** at 10:00 a.m.
in the Auditorium of the Harris State Building,
1515 Clay Street, Oakland, California.

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 **February 17, 2011,** following the Public Meeting,
in the Auditorium of the Harris State Building,
1515 Clay Street, Oakland, California.

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 **February 17, 2011,** following the Public Hearing,
in the Auditorium of the Harris State Building,
1515 Clay Street, Oakland, California.

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

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, General Industry Safety Orders of the California Code of Regulations, as indicated below, at its Public Hearing on **February 17, 2011.**

1. TITLE 8: **CONSTRUCTION SAFETY ORDERS**
Division 1, Chapter 4, Subchapter 4
Article 2, Section 1504
Article 10, Section 1591, New Appendix A
Article 11, Section 1597
GENERAL INDUSTRY SAFETY ORDERS
Division 1, Chapter 4, Subchapter 7
Article 25, Section 3363
Article 93, New Section 4925.1
MINE SAFETY ORDERS
Division 1, Chapter 4, Subchapter 17, Article 17
Section 7016
Vehicle Exhaust Retrofits

2. TITLE 8: **GENERAL INDUSTRY SAFETY ORDERS**
Division 1, Chapter 4, Subchapter 7, Article 2
Section 3209
Standard Guardrails

Descriptions of the proposed changes are as follows:

1. TITLE 8: **CONSTRUCTION SAFETY ORDERS**
Division 1, Chapter 4, Subchapter 4
Article 2, Section 1504
Article 10, Section 1591, New Appendix A
Article 11, Section 1597
GENERAL INDUSTRY SAFETY ORDERS
Division 1, Chapter 4, Subchapter 7
Article 25, Section 3363
Article 93, New Section 4925.1
MINE SAFETY ORDERS
Division 1, Chapter 4, Subchapter 17, Article 17
Section 7016
Vehicle Exhaust Retrofits

INFORMATIVE DIGEST OF PROPOSED ACTION/POLICY STATEMENT OVERVIEW

This rulemaking was initiated in response to Occupational Safety and Health Standards Board (Standards Board), Petition 507, submitted on August 7, 2008 by Associated General Contractors of California and Operating Engineers, Local 3, concerning modifications of the exhaust systems (exhaust retrofits) of off-road vehicles to comply with the California Air Resources Board (ARB) in-use off road diesel regulation which was approved by the ARB in 2007. According to the ARB, the off-road diesel regulation is necessary to meet U.S. Environmental Protection Agency (EPA) air quality standards for fine particulate pollution (PM2.5) and reduce the number of annual PM2.5-related premature deaths in California, which the ARB estimates is 9,200.[1] The regulation calls for the installation of exhaust retrofits on diesel-powered construction equipment, mining equipment, and industrial equipment used throughout the state. The regulation has provisions that would exempt vehicles from retrofit if that retrofit could not be done safely, and the regulation defers to the regulations of the Standards Board in making that determination. The ARB estimated that approximately 150,000 vehicles are subject to the retrofit requirements adopted in 2007; however, in October, 2010, the ARB noticed proposed amendments to the regulation which will be heard at the December, 2010, ARB meeting. The amendments would allow employers to turnover vehicles in lieu of installing retrofits. To comply with the proposed amendments, it is anticipated that employers will elect to retrofit a vehicle only where that is the most cost effective method of compliance. If the amendments are adopted, the total number of retrofits would be much smaller than the number required by the regulation adopted in 2007.

The Standards Board granted Petition 507 on November 20, 2008, and directed staff to work with the Petitioners, ARB, and other affected parties, as appropriate, to develop a rulemaking proposal to be presented to the Board at a future public hearing.

Standards Board staff, ARB staff, and the Petitioners met with staff from the Governor's Office to discuss how to move forward with the Board's Petition Decision and maintain the health benefits of the diesel particulate regulation. In response to the directions given by the Governor's Office, ARB, Standards Board staff, and Division staff worked cooperatively to complete two products. The first product was an interim policy, which currently is in place and recognized by the Air Resources Board,

[1] Estimate of Premature Deaths Associated with Fine Particle Pollution (PM2.5) in California Using a U.S. Environmental Protection Agency Methodology, California Air Resources Board, August 31, 2010.

that no retrofit should be installed on a piece of off-road equipment if it impairs visibility to the front, rear, or sides. The second product was a joint field study to examine the impact that exhaust retrofits would have if installed on fifty of the most common types of vehicles in the ARB inventory of vehicles subject to the ARB off-road diesel regulation and potential candidates for exhaust retrofits. [2]

This proposed rulemaking action contains 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 1504. Definitions.

Section 1504 provides definitions that apply in the application of the Construction Safety Orders (CSO). The proposal would add a new definition of "exhaust retrofit." This definition is needed because the term "exhaust retrofit" is not defined elsewhere, and the term is used extensively in this proposal. The effect of this new definition is to provide clarity as to the application of the proposed amendments.

Section 1591. Haulage Vehicles, Equipment-Construction and Maintenance.

Section 1591 pertains to the construction and maintenance of haulage vehicles and haulage vehicle equipment.

New Subsection (m).

The proposal would add a new subsection (m) pertaining to the installation and maintenance of exhaust retrofits on haulage vehicles. Subsections (m)(1) through (m)(4) would address potential hazards of exhaust retrofits, including fires and burns, operator's safe assess and egress, and impact on the vehicle's structural and operational safety. Subsection (m)(5) would require that employers test vehicles equipped with exhaust retrofits for operator's visibility and that retrofit vehicles pass the visibility test in Appendix A of Section 1591. Subsection (m)(6) would require employers to maintain a record of the required visibility testing. The effect of proposed subsection (m) is to protect workers from exposure to hazards created by unsafe exhaust retrofits.

New Subsection (m)(1).

New subsection (m)(1) would prohibit exhaust retrofits that reduce the capacity, structural integrity, or safe performance of a vehicle. The effect of the proposed provision is to prevent exhaust retrofit installations that reduce the stability of the vehicle, the strength of vehicle structures, or the ability of the vehicle to perform safely.

New Subsection (m)(2).

New subsection (m)(2) would prohibit exhaust retrofits that reduce the operator's ability to access or egress a vehicle safely. The effect of the proposed provision is to preclude possible obstructions that would be adverse to employee safety.

[2] Preliminary Results of Joint ARB/DOSH/OSHSB Field Study of Retrofit Feasibility for Most Common Vehicles, California Air Resources Board Staff Report, May 10, 2010.

New Subsection (m)(3).

New subsection (m)(3) would provide that an exhaust retrofit shall be located or shielded such that it does not increase the risk of a fire due to contact with hydraulic fluid, or fuel, spilled during transfer or sprayed from a broken hose, pipe, or container. The effect of the proposed provision is to prevent possible, foreseeable employee injuries.

New Subsection (m)(4).

New subsection (m)(4) would provide that an exhaust retrofit shall be located or effectively shielded such that it does not increase the risk of the operator, during performance of normal duties, contacting exhaust system surfaces having a temperature of 140 degrees F (60 degrees C) or higher. The effect of the proposal is to prevent vehicle operators from second degree burns caused by contact with hot surfaces of exhaust retrofits while performing normal duties, such as getting on and off the vehicle.

New Subsection (m)(5).

New subsection (m)(5) would provide that before a vehicle equipped with an exhaust retrofit is placed in use, the effect of the retrofit on the operator's visibility shall be evaluated in accordance with the Visibility Testing Procedures (visibility test) in Appendix A of Section 1591, and the retrofit shall pass the visibility test in accordance with Section B of Appendix A. The effect of the proposed test procedures and criteria is to protect employees working near a retrofit vehicle from being struck by the vehicle due to the retrofit blocking the operator's view. Also, the effect of the proposed provision is to provide an objective means of determining compliance with visibility requirements.

According to the Division's review of accident report data in OSHA's Integrated Management Information System (IMIS), during an approximately 8-year period ending in 2007, there were 44 fatalities and 45 severe injuries to employees caused by contact with haulage vehicles, earthmoving equipment and similar vehicles on job sites.[3] A common contributing factor to these accidents is that the operator could not see the accident victim because part of the vehicle obstructed the operator's view. Existing Section 1591(b) provides that equipment and accessories installed on haulage vehicles shall be arranged so as to avoid impairing the driver's operational vision to the front or sides; however, it does not address the operator's vision to the rear. The proposed provision is necessary to address the operator's vision to the rear, in addition to the front and sides, because most accident victims are struck by vehicles that are backing up. The proposed provision is also necessary to provide an objective means of determining compliance with visibility requirements.

New Subsection (m)(6).

New subsection (m)(6) would require employers to maintain and have readily available a written record of the visibility testing conducted on each retrofit vehicle required to be tested in accordance with subsection (m)(5). The effect of the written record is to document that visibility testing has been performed and that the retrofit vehicle passes the visibility test criteria in Appendix A as required by subsection (m)(5).

An exception to subsection (m)(6) is proposed which would exempt an employer from the requirement to maintain a record of the visibility testing conducted on a vehicle, provided that all sections of the exhaust retrofit are completely inside the Original Equipment Manufacturer (OEM) engine

[3] DOSH Inspections with Crane Standards Cited: 1590, 1591, 1592, 1593, 3663, and 3706, Report generated by Bob Hayes, DOSH Budget and Program Offices, transmitted to OSHSB on November 19, 2008.

compartment. The effect of this exception is to eliminate the burden of maintaining records where it is possible to simple observe that the retrofit complies with visibility requirements.

New Appendix A to Section 1591: Visibility Testing Procedures (Mandatory).

New Appendix A would provide the visibility testing procedures and criteria necessary to implement proposed Section 1591(m)(5). The visibility testing procedures in Appendix A would provide a method for evaluating if an exhaust retrofit blocks the operator's view of a person standing near a vehicle. The effect of the proposed visibility test procedures is to provide a relatively simple, objective and reproducible field test to evaluate whether an exhaust retrofit blocks the operator's view of a person standing near a retrofit vehicle. The criteria for passing the visibility test in Appendix A, would establish a measureable limit on the masking that retrofits are allowed to create. The effect of the proposed criteria is to protect employees working near retrofit vehicles, and allow employers to retrofit vehicles to comply with the ARB off-road diesel regulation.

New Appendix A. Section A. General Requirements.

New Subsection A.1. Scope and Application.

New subsection A.1 would provide that where Sections 1591, 1597, 3663, 4925.1, or 7016 require retrofit vehicles be evaluated for visibility, the evaluation shall be in accordance with the procedures in Appendix A. The effect of this provision is to clarify the purpose and application of Appendix A.

New Subsection A.2. Definitions.

New subsection A.2 would provide a definition of "exhaust retrofit" and "masking". The definition of "exhaust retrofit" would be identical to the definition proposed to be added to amended Section 1504(G). The effect of defining the term "masking" is to improve clarity because the term is used throughout Appendix A.

New Subsection A.3.

New subsection A.3 would provide that all line of sight measurements required by the visibility test shall consider the operator's direct view without the use of mirrors or cameras. The effect of this provision is to ensure that the measurements are not made via reliance on devices (mirrors and cameras) that are not a safe, reliable substitute for an unobstructed view.

New Appendix A. Section B. Test Procedures and Performance Criteria.

New Subsection B.1.

New subsection B.1 would provide that all sections of an exhaust retrofit shall comply with at least one of the following conditions listed in subsections B.3.a through B.3.d: 1) are inside the OEM engine compartment, or 2) do not block the operator's view of the ground, or 3) do not create masking 5 feet above a line on the test surface that is a distance of 40 inches outside of the smallest rectangle that encompasses the perimeter of the vehicle, or 4) are retrofit exhaust stacks that create no more masking than the OEM exhaust stacks. The effect of this provision is to limit the amount of masking that exhaust retrofits are allowed to create because workers in operator blind spots are at an increased risk of being struck by the retrofit vehicle. Each of the conditions listed in subsections B.3.a through B.3.d would reference the subsection that contains the visibility test procedures and criteria for determining

compliance with the condition. The effect of this provision is to provide objective test methods and criteria so that the results are accurate and repeatable. The subsection would also provide that any, or all, of the test procedures referenced in subsections B.3.a through B.3.d may be used to evaluate different sections of a single retrofit, except the procedures referenced in subsection B.3.d apply only to retrofit exhaust stacks. The effect of this provision is to clarify the application of subsections B.3.a through B.3.d. Additional provisions would clarify which objects are considered part of an exhaust retrofit. The effects of these provisions are to ensure all modifications made to the exhaust system or vehicle as part of the retrofit installation are evaluated for masking.

New Subsection B.2.

New subsection B.2 would provide that a retrofit passes the visibility test if all sections of the retrofit, except the exhaust stack, meet the performance criteria of at least one of the test procedures referenced in subsections B.3.a through B.3.c, and the retrofit exhaust stack meets the performance criteria of at least one of the test procedures referenced in subsections B.3.a through B.3.d. The effect of this provision is to define the conditions that must be met for an exhaust retrofit to pass the visibility test as required by Section 1591(m)(5).

New Subsection B.3.

New subsection B.3 would inform the reader that subsections B.3.a through B.3.d summarize conditions for passing the visibility test and reference test procedures and criteria for determining compliance with each of the conditions; and that subsections B.1 and B.2 specify how the conditions, procedures and criteria shall apply. The effect of this provision is to provide procedures and criteria for passing the visibility test.

New Subsections B.3.a through B.3.d.

New subsections B.3.a through B.3.d would summarize conditions for passing the visibility test, and reference test procedures and criteria for determining compliance with each of the conditions. The effect of this provision is to list alternative means and conditions for passing the visibility test and to refer the reader to the test procedures and criteria for determining compliance with each of the conditions. Also, the effect of this provision is to assist the reader in selecting an appropriate test procedure for evaluating a particular retrofit component.

New Appendix A. Section C. Zero Masking Visibility Test Procedures.

New subsections C.1 and C.2 would provide test procedures that may be used to evaluate retrofit sections located, with respect to the operator's view, under, behind, or in front of parts of the vehicle. The effect of these test procedures is to determine that the vehicle, and not the retrofit, blocks the operator's view towards the ground.

New Subsection C.1.

The procedures and criteria in new subsection C.1 would apply when the conditions in subsection B.3.a must be met to comply with the provisions in Section B. New subsection C.1 would provide that the retrofit component shall be evaluated to determine if it is located inside the OEM engine compartment where it would not create masking. It would also provide that retrofit components located inside the OEM engine compartment shall meet the test criteria for subsection C.1. The effect of these provisions is to determine that the retrofit section does not block the operator's line of sight.

New Subsection C.2.

The procedures and criteria in new subsection C.2 would apply when the conditions in subsection B.3.b must be met to comply with the provisions in Section B. New subsection C.2 would provide procedures and criteria for determining that a retrofit component is behind or in front of parts of the vehicle with respect to the operator's view to the ground. Subsections C.2. a and C.2.b would provide that the vehicle and light source be positioned as instructed in Sections F and I, respectively. The effect of these provisions is to produce accurate, repeatable results based on the line of sight of the average height and weight operator. Subsections C.2.c and C.2.d would provide that the person conducting the visibility test establish a line of sight view towards the light source that represents, in reverse, the operator's line of sight view towards the ground behind the retrofit component. The effect of these provisions is to determine that the retrofit section does not block the operator's line of sight.

New Appendix A. Section D. Rectangular Boundary Visibility Test Procedures.

The procedures and criteria in new Section D would apply when the conditions in subsection B.3.c must be met to comply with the provisions in Section B. New Section D would provide test procedures and criteria for determining that a retrofit section does not create masking 5 feet above a line on the test surface that is a distance of 40 inches outside of the smallest rectangle that encompasses the perimeter of the vehicle. Subsections D.1 and D.2 would provide that the vehicle and light source be positioned as instructed in Sections F and I, respectively. The effect of these provisions is to produce accurate, repeatable results based on the line of sight of the average height and weight operator. Subsections C.3 through C.5 would provide that a 5 foot high railing be positioned directly above a line that is 40 inches outside of the smallest rectangle that encompasses the perimeter of the vehicle. The effect of these provisions is to establish a reference point for measuring masking. Subsections D.6 and D.7 would provide that the person conducting the visibility test establish a line of sight view towards the light source that represents, in reverse, the operator's line of sight view towards the 5 foot high railing positioned 40 inches from the vehicle. The effect of these provisions is to determine that the retrofit component does not create masking 5 feet above a line on the test surface that is a distance of 40 inches outside of the smallest rectangle that encompasses the perimeter of the vehicle. Subsection D.8 would provide three conditions that must be met to satisfy the rectangular boundary visibility test. Subsection D.8.a would provide that the retrofit component does not block the view of both lights; subsection D.8.b would provide that the retrofit component is not visible above the 5 foot railing; and subsection D.8.c would provide that the retrofit component is not above a part of the vehicle blocking the view of both lights. The effect of these provisions is to establish that the retrofit component does not create masking at an elevation of 5 feet at a distance greater than 40 inches from the vehicle.

New Appendix A. Section E. Exhaust Stack Visibility Test Procedures.

The procedures and criteria in new Section E would apply when the conditions in subsection B.3.d must be met to comply with the provisions in Section B. New Section E would provide test procedures and criteria for determining that a vertical retrofit exhaust stack, due to its size and location, creates no more masking than the OEM exhaust stack. Subsection E.1 provides that the diameter of the OEM and retrofit exhaust stacks be determined. Subsection E.2 provides that the location of the OEM and retrofit exhaust stacks be determined in relation to the operator's position. The effect of these provisions is to determine the relative size and position of the areas masked by the OEM and retrofit exhaust stacks. Subsection E.3 would provide three conditions that must be met to satisfy the exhaust stack visibility test. The effect of these provisions is to determine that the area masked by the retrofit stack is in the

same general location as the area masked by the OEM stack, and it is smaller than the area masked by the OEM stack.

New Appendix A. Section F. Vehicle Position.

The procedures in new Section F would apply when the conditions in subsections B.3.b or B.3.c must be met to comply with the provisions in Section B. New Section F would provide procedures for positioning of the vehicle for testing. Subsection F.1 would require that the vehicle is parked on an area of compacted earth or paved surface with a gradient of no more than 3% in any direction. The effect of this provision is to ensure that the results of the procedures in subsection C.2 and Section D are accurate and reproducible because an uneven or sloped test surface can affect the test results. Subsection F.2 would provide that the vehicle attachments be safely positioned in the traveling position. The effect of this provision is to provide for the safety of persons performing the tests and to ensure that the results of the procedures in subsection C.2 and Section D are accurate and reproducible, because the position of vehicle attachments can affect the test results.

New Appendix A. Section G. Seat Reference Point.

The procedures in new Section G would apply when the conditions in subsections B.3.b or B.3.c must be met to comply with the provisions in Section B. New Section G would provide procedures for positioning the operator seat in the middle of its adjustable range and for locating a seat reference point. Subsections G.1 through G.4 would provide that the operator seat be positioned in the middle of its adjustable range. The effect of this provision is to establish a seat position that is reasonable for the average size operator and is reproducible. Subsections G.5 through G.6 would provide procedures for locating the seat reference point. The effect of this provision is to locate a point that is used to establish the operator's eye position, which is used to perform line of sight measurements to identify masking.

New Appendix A. Section H. Light Filament Height.

The procedures in new subsections H.1 through H.5 would apply when the conditions in subsections B.3.b or B.3.c must be met to comply with the provisions in Section B. New Section H would provide procedures for determining the light filament height. The light filament height establishes the vertical distance above the seat reference point that represents the eye level of the average height and weight operator when sitting. New Section H would establish a light filament height of 30½ inches for seats that do not sink in elevation (compress) when sat on. Subsections H.1 through H.5 would provide procedures for calculating the light filament height for seats that compress when sat on. The effect of these procedures is to facilitate accurate, reliable, and reproducible test results by determining the distance above the seat reference point that represents the operator's eye level.

New Appendix A. Section I. Light Source Position.

The procedures in new subsections I.1 through I.5 apply when the conditions in subsections B.3.b or B.3.c must be met to comply with the provisions in Section B. New Section I would provide procedures for constructing and positioning a light source. The light source position represents the position of the average operator's eyes when operating the vehicle. Subsection I.1 provides for constructing a light with two lights space 8 inches apart and 4 inches from the center. The light spacing simulates the average operator's ability to move his or her head and torso which increases the horizontal range of eye positions. Subsection I.2 provides that the center of the lights shall be easily identified in day light at a distance of 40 feet. Subsections I.3.a and I.3.b provide that the light bar support allows the light bar to be rotated 360 degrees on a horizontal plane with the axis of rotation center between the two lights, and

the lights be ½ to 2 inches in front of the axis of rotation of the light bar. The position of the lights simulates the average operator's eye position. Subsections I.4 through I.6 provide for positioning the light bar on the operator seat such that the horizontal axis of rotation is directly above the seat reference point, the center of the lights are at a height equal to the light filament height calculated in Section H.5, and the lights point directly towards the retrofit. The position of the lights is representative of the average operator's eye position and is reproducible. The effect of these provisions is to facilitate accurate, reliable, and reproducible test results.

Section 1597. Jobsite Vehicles.

Existing Section 1597 pertains to the construction and operation of jobsite vehicles.

New Subsection (l). Exhaust retrofits.

New Section 1597(l) would provide that exhaust retrofits on jobsite vehicles comply with Section 1591(m). A jobsite vehicle is defined in Section 1504 as a vehicle which is operated on a jobsite exclusively and is excluded from the provisions of applicable traffic and vehicular codes, and haulage and earthmoving vehicles regulated by the provisions of Article 10 of these Orders. The effect of the proposed amendment is to prohibit job-site vehicles with exhaust retrofits that do not comply with proposed Section 1591(m).

Section 3663. Maintenance of Industrial Trucks.

Subsection (g).

Existing Section 3663(g) provides that industrial trucks shall not be altered so that the relative positions of the various parts are different from what they were when originally received from the manufacturer, nor shall they be altered either by the addition of extra parts not provided by the manufacturer or by the elimination of any parts, except as provided in subsection (h) of this Section. This provision prevents industrial truck accidents that result from an industrial truck becoming imbalanced due to the alteration of its parts. The proposal would amend subsection (g) so that industrial trucks that are altered in accordance with the provisions of proposed new subsection (i) would also be exempt from the general prohibition on altering truck parts. New subsection (i) would provide that exhaust retrofits shall comply with Section 1591(m). The effect of the proposed amendment to Section 3663(g) is to allow exhaust retrofits on industrial trucks, provided that the retrofits do not alter the truck in a manner that reduces the designed balance or operational stability of the industrial truck (thus, retrofits are allowed only if safety is not impaired, which conforms with the intent of existing Section 3663(g)).

New Subsection (i).

New Section 3663(i) would provide that exhaust retrofits on industrial trucks shall comply with Section 1591(m). The effect of the proposed amendment is to prohibit industrial trucks with exhaust retrofits that to do not comply with Section 1591(m).

New Section 4925.1. Exhaust Retrofits.

New Section 4925.1 would be located in Article 93, which pertains to boom-type mobile cranes. New Section 4925.1 would provide that exhaust retrofits on boom-type mobile cranes shall comply with Section 1591(m). The effect of the proposed amendment is to prohibit boom-type mobile cranes with exhaust retrofits that do not comply with proposed Section 1591(m).

Section 7016. Haulage Vehicle, Construction and Maintenance.

Existing Section 7016 pertains to the construction and maintenance of haulage vehicles used in mining operations.

New Subsection (m). Exhaust retrofits.

New subsection (m) would provide that exhaust retrofits on these types of vehicles shall comply with Section 1591(m). The proposed amendment is necessary because some haulage vehicles covered by Section 7016(m) are regulated under the ARB off-road diesel rule and it is expected that employers will retrofit some of these vehicles to comply with the ARB rule. The effect of this amendment is that the provisions in Section 1591(m) would apply to exhaust retrofits on haulage vehicles used in mining operations.

COST ESTIMATES OF PROPOSED ACTION

Costs or Savings to State Agencies

The proposal would affect a limited number of State Agencies, including: Department of Transportation, Department of Fish and Game, Department of Water Resources, and Department of General Services. State government fleets represent 1.6% of the total horsepower in all fleets. Assuming the cost impact on State government is 1.6% of the total maximum cost impact of $ 46 million, the cost impact on State government is less than $ 700,000.

A Division of Occupational Safety and Health review of workplace accidents shows that employees working near off-road vehicles are at risk of being struck by a vehicle and killed or seriously injured where the vehicle operator's view of the employee is blocked by part of the vehicle.[5] This proposal would reduce employee fatalities and injuries by prohibiting retrofits that block the operator's view of areas surrounding a vehicle. The total cost of one fatality would outweigh the cost for a State agency to comply with the proposal.

The total maximum cost impact of $46 million is based on the following:

Estimated number of vehicles impacted by the OSHSB proposal:

- Number of vehicles subject to ARB rule: 150,000 - based on required reports to ARB
- Number of vehicles impacted by ARB rule: 20,400.
    - Assumes that 46% of fleets will not meet fleet average emission requirements and will be impacted (required to retrofit or replace vehicles) - based on ARB data that 46% of fleets have an average vehicle age > 10 to 12 years old.
    - Assumes that after 2019 no vehicles will be retrofitted because it will be more cost effective to replace a vehicle with a used lower-emission vehicle.
    - The large fleets required to take action will need to retrofit or replace 49% of their vehicles by 2020 or 16,000 vehicles, based on an initial compliance date of 2014 and annual requirements in years 2015 to 2020.
    - The medium fleets required to take action will need to retrofit or replace 28% of their vehicles by 2020 or 2,000 vehicles, based on an initial compliance date of 2017 and annual requirements in years 2018 and 2019.

[5] DOSH Inspections with Crane Standards Cited: 1590, 1591, 1592, 1593, 3663, and 3706, Report generated by Bob Hayes, DOSH Budget and Program Offices, transmitted to OSHSB on November 19, 2008.

    - The small fleets required to take action will need to retrofit or replace 10% of their vehicles or 2,400 vehicles, based on an initial compliance date of 2019.
- Number of impacted vehicles that fall in the Hp and age range normally retrofit : 13,300
    - Based on retrofits already reported to ARB, 95% of retrofit vehicles fall within 55 to 500 Hp and 95% are newer than 1992 model engines.
    - Based on data reported to ARB, 78% of all vehicles fall within 50 to 500 Hp and 78% have newer than 1992 engine models.
- Number of impacted vehicles in the Hp and age range normally retrofit that would be cost effective to retrofit: 9,300
    - Assumes average cost of a retrofit is $125/Hp based on Initial Statement of Reasons (ISOR) for proposed amendments to the ARB off-road diesel regulation noticed October 2010.
    - Assumes 18 year old vehicle would be replaced with a 10 year old vehicle.
    - Cost of replacing a vehicle type in $/Hp is based on replacement costs and cost curves found in the ISOR for the ARB proposed amendments noticed October, 2010 and available at http://www.arb.ca.gov/msprog/ordiesel/offroad_1085.htm
    - Assumes that vehicle types costing more than $125/Hp to replace are cost effective to retrofit.
    - Based on the distribution of vehicles by vehicle type as reported to ARB, 30% of impacted vehicles in the Hp and age range normally retrofit would be cost effective to retrofit.
- Number of impacted vehicles in the Hp and age range normally retrofitted that would be cost effective to retrofit and can be retrofitted in accordance with the OSHSB proposal: 6,200.
    - Based on the joint field study that showed approximately 67% of the most common types of vehicles can be retrofitted in compliance with the proposed visibility standard. [2]
- Number of impacted vehicles in the Hp and age range normally retrofit that would be cost effective to retrofit but will instead be replaced because no retrofit is available that complies with the OSHSB proposal: 3,100
    - Based on joint field study.[2]

Estimated cost impact of the OSHSB proposal:

- Cost of performing a visibility test, documenting, and creating records: $4.65 million
    - Assumes 9,300 vehicles will be tested at an average cost of $500 per vehicle.
    - Assumes maintaining test records will not result in additional costs because vehicle retrofit records are already required by ARB.
- Cost of modifying retrofit installations to comply with OSHSB proposal: $16.7 million
    - Assumes an average cost increase of 14% per retrofit based on two retrofit manufacturers' estimates for retrofitting 23 of the 50 vehicles in the joint visibility study.
    - Based on an average retrofit cost of $125 per Hp, an average of 158 Hp per vehicle as reported to ARB, and 6,200 vehicles expected to be retrofitted.
- Cost of replacing vehicles in the Hp and age range normally retrofit that would be cost effective to retrofit but will instead be replaced because no retrofit is available that complies with the OSHSB proposal: $25.0 million. This cost was calculated as follows:
    - Determined all vehicles types with "cost per Hp of replacement" > 125 $/Hp
    - For each vehicle type, calculated "cost per Hp of replacement over retrofit" by subtracting $125/Hp from "cost per Hp of replacement".

[2] Preliminary Results of Joint ARB/DOSH/OSHSB Field Study of Retrofit Feasibility for Most Common Vehicles, California Air Resources Board Staff Report, May 10, 2010.

- For each vehicle type, calculated "cost per vehicle of replacement over retrofit" by multiplying "cost per Hp of replacement over retrofit" by 158 Hp per vehicle.
- For each vehicle type determined "per cent of all vehicles in State" from reports to ARB.
- For each vehicle type, determined "relative weight" of each vehicle type by calculating the per cent of all vehicles types with "cost per Hp of replacement" > 125 $/Hp.
- For each vehicle type, calculated the portion of the "average cost per vehicle of replacement over retrofit" by multiplying the "cost per vehicle of replacement over retrofit" by the "relative weight".
- Calculated the "average cost per vehicle of replacement over retrofit" by summing the portion of the "average cost per vehicle of replacement over retrofit" for each vehicle type.
- Calculated the "total cost of replacing over retrofit" by multiplying the "average cost per vehicle of replacement over retrofit" ($8,052) by 3,100 vehicles.

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 a 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. In making this determination, the Board relied on the following studies and relevant data:

1. Preliminary Results of Joint ARB/DOSH/OSHSB Field Study of Retrofit Feasibility for Most Common Vehicles, California Air Resources Board Staff Report, May 10, 2010.
2. Cost Analysis for Vehicle Exhaust Retrofits, Attachment No. 2 of Economic and Fiscal Impact Statement for OSHSB rulemaking proposal noticed December, 2010.

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 impose nondiscretionary costs or savings on local agencies. Local governments including cities, counties, municipalities and special districts would be affected to the extent that they own off-road diesel vehicles impacted by the ARB regulation. Local government fleets represent 6.1%

of the total horsepower in all fleets. Assuming the cost impact on local government is 6.1% of the total cost impact of $ 46 million, the cost impact on local government is approximately $ 2.8 million.

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.

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.

2. TITLE 8: **GENERAL INDUSTRY SAFETY ORDERS**
Division 1, Chapter 4, Subchapter 7, Article 2
Section 3209
Standard Guardrails

INFORMATIVE DIGEST OF PROPOSED ACTION/POLICY STATEMENT OVERVIEW

This rulemaking proposal is the result of an evaluation by the United States Department of Labor, Occupational Safety and Health Administration (Fed OSHA) of General Industry Safety Order (GISO) Section 3209(c)(3), Standard Guardrails. In a letter sent to the Occupational Safety and Health Standards Board (Board), dated August 12, 2010, Fed OSHA contends that Section 3209(c)(3) does not contain sufficient requirements for strength and protection to make it at least as effective as (ALAEA) federal standard 29 CFR 1910.23(e)(3)(iii), in that Section 3209(c)(3) allows metal guardrails to be constructed of 1/4-inch thick structural metal whereas Fed OSHA requires 3/8-inch metal.

Board staff confirmed that the federal standard is more stringent than the California requirements. Comparative metallurgical yield strength properties in the 13th Edition of the American Institute of Steel Construction (AISC), Manual of Steel Construction, Table 5-2, indicates that flexural and torsion strength of 1/4-inch steel material are approximately 45% less than that of 3/8-inch material. However, despite this, there is no California accident data to suggest that the use of 1/4-inch thick structural metal guardrails has contributed to guardrail failures. California Labor Code Section 142.3(a)(2) requires the Board to adopt standards that are at least as effective as those promulgated by Fed OSHA.

The Board staff proposes to make the proposal applicable to metal guardrails installed after the effective date of the proposal, essentially grandfathering existing 1/4-inch railing systems. Board staff believes this is reasonable given the potential for substantial adverse cost impact due to the vast number of 1/4-inch thick metal guardrails in California workplaces, which would have to be redesigned, rebuilt and reinstalled if the proposal were made effective without the grandfathering provision.

Section 3209. Standard Guardrails.

Section 3209(c) requires metal guardrails to be at least 2-inch by 2-inch by 1/4-inch angles or other metal shapes of equivalent bending strength; and the midrail, where permitted, to be of iron or steel of at least 2-inch by 2-inch by 1/4-inch angles or other metal shapes of equivalent strength. This standard also requires the posts to be angle iron of at least 2-inch by 2-inch by 1/4-inch stock, the spacing not to exceed 8 feet.

Amendments are proposed to allow existing metal guardrail systems installed on or before the effective date of the proposal to be constructed of at least 2-inch by 2-inch by 1/4-inch stock and require that 3/8-inch stock be used for metal guardrails installed after the effective date of the proposal.

These proposed amendments will render GISO Section 3209 consistent with federal standard 29 CFR 1910.23(e)(3)(iii) and will provide added safety in light of the fact that 3/8 inch stock is stronger than 1/4-inch stock and eliminate the discrepancy between existing Section 3209 and the federal standard. Adverse cost impact to employers who have already installed railing systems would not be incurred because the proposal would only affect railing systems installed after the effective date of the proposal.

The reference to Title 24 is to be deleted. Assembly Bill 3000 (Stats. 2002. c. 1124), repealed Labor Code Section 142.6 and Health and Safety Code Section 18943(b), thus exempting the Board from the building standard requirements contained in these Codes.

COST ESTIMATE 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 proposal is worded to minimize/eliminate adverse cost impact to employers who have already installed metal guardrail systems constructed of 1/4-inch stock because the proposal requires railing systems to be constructed of 3/8 inch metal stock after the effective date of the proposal.

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 regulation 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. Furthermore, this regulation does 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.)

The proposed regulation does not require local agencies to carry out the governmental function of providing services to the public. Rather, the regulation requires local agencies to take certain steps to ensure the safety and health of their own employees only. Moreover, the proposed regulation 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 regulation does not impose unique requirements on local governments. All state, local and private employers will be required to comply with the prescribed standard.

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 regulation 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 February 11, 2011. 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 February 17, 2011, 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. 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 Mike 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 4, Construction Safety Orders, Article 22, Section 1648; and Article 25, Sections 1675 and 1678; Subchapter 7, General Industry Safety Orders, Article 4, Sections 3276, 3277, 3278, 3279, and 3280; Article 5, Section 3287; and Article 11, Section 3413, **Portable Ladders.**

   Heard at the December 17, 2009, Public Hearing; adopted on October 21, 2010; filed with the Secretary of State on December 8, 2010; and will become effective on January 7, 2011.

2. Title 8, Division 1, Chapter 4, Subchapter 4, Construction Safety Orders, Article 32, Section 1742, **Definitions of "Manifold" and "Header."**

   Heard at the August 16, 2010, Public Hearing; adopted on October 21, 2010; filed with the Secretary of State on December 9, 2010; and will become effective on January 8, 2011.

3. Title 8, Division 1, Chapter 4, Subchapter 5, High Voltage Electrical Safety Orders, Article 17 Section 2813, **Underground Vaults—Headroom Clearance.**

   Heard at the September 16, 2010, Public Hearing; adopted on October 21, 2010; filed with the Secretary of State on December 9, 2010; and will become effective on January 8, 2011.

Copies of these standards 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/oshsb** and follow the links to the Standards Board. This information is updated monthly. The Standards Board's e-mail address is: **oshsb@dir.ca.gov**.

OCCUPATIONAL SAFETY AND HEALTH
STANDARDS BOARD

Marley Hart, Executive Officer