

**OCCUPATIONAL SAFETY
AND HEALTH STANDARDS BOARD**

2520 Venture Oaks, Suite 350
Sacramento, CA 95833
(916) 274-5721
FAX (916) 274-5743
www.dir.ca.gov/oshsb



**TITLE 8
CALIFORNIA CODE OF REGULATIONS
NOTICE OF PROPOSED MODIFICATIONS**

Chapter 4, Subchapter 4, Article 21,
Section 1637 and Article 23, Section 1658 of the Construction Safety Orders

Scaffolds Used in the Construction Industry

Pursuant to Government Code Section 11346.8(c), the Occupational Safety and Health Standards Board (Standards Board) gives notice of the opportunity to submit written comments on the above-named regulations in which further modifications are being considered as a result of Board consideration.

On July 20, 2000, the Standards Board held a Public Hearing to consider revisions to Title 8, Sections 1637 and 1658 of the Construction Safety Orders, California Code of Regulations. On November 16, 2000 at the Standards Board's Public Meeting the Board reopened the floor to accept further comments and received one oral comment. The regulations have been further modified as a result of the Board's consideration of the oral comment.

A copy of the full text of the regulation as originally proposed, and a copy of the modified text clearly indicating the further modifications, is attached for your information. In addition, a summary of all oral and written comments regarding the original proposal and staff responses is included.

Any written comments on these modifications must be received by 5:00 p.m. on January 29, 2001 at the Occupational Safety and Health Standards Board, 2520 Venture Oaks Way, Suite 350, Sacramento, California 95833. These regulations will be scheduled for adoption at a future business meeting of the Standards Board.

The Standards Board's rulemaking files on the proposed action are open to public inspection Monday through Friday, from 8:00 a.m. to 4:30 p.m., at the Standards Board's office at 2520 Venture Oaks Way, Suite 350, Sacramento, California 95833.

Inquiries concerning the proposed changes may be directed to the Executive Officer, John D. MacLeod at (916) 274-5721.

JOHN D. MACLEOD, Executive Officer

REGULATIONS AS ORIGINALLY PROPOSED

**STANDARDS PRESENTATION
TO
CALIFORNIA OCCUPATIONAL SAFETY AND HEALTH STANDARDS BOARD**

PROPOSED STATE STANDARD,
TITLE 8, CHAPTER 4

Amend Section 1637 to read as follows:

§ 1637. General Requirements.

* * * * *

(u) Work on or from scaffolds is prohibited during storms or high winds unless a qualified person has determined that it is safe for employees to be on the scaffold and those employees are protected by a personal fall arrest system, as defined in Section 1504 of these Orders, or wind screens. Wind screens shall not be used unless the scaffold is secured against the anticipated wind forces imposed.

(v) Wood platforms shall not be covered with opaque finishes, except that platform edges may be covered or marked for identification. Platforms may be coated periodically with wood preservatives, fire-retardant finishes, and slip-resistant finishes; however, the coating may not obscure the top or bottom wood surfaces.

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

**STANDARDS PRESENTATION
TO
CALIFORNIA OCCUPATIONAL SAFETY AND HEALTH STANDARDS BOARD**

PROPOSED STATE STANDARD,
TITLE 8, CHAPTER 4

Amend Section 1658(e) to read:

§ 1658. Suspended Scaffolds-General.

* * * * *

(e) Supporting Ropes. Ropes supporting scaffolds shall have a factor of safety of at least 6. They shall be inspected on each job before being used to determine if they are unsafe because of damage, wear, chemical action or similar defects. The use of repaired wire rope as suspension rope is prohibited.

* * * * *

(v) Gasoline-powered equipment and hoists shall not be used on suspension scaffolds.

(w) Devices whose sole function is to provide emergency escape and rescue shall not be used as working platforms. This provision does not preclude the use of systems which are designed to function both as suspension scaffolds and emergency systems.

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

PROPOSED MODIFICATIONS

Modified Page: 2 of 2

**(Modifications are indicated by
bold wording for new language and
italicized strikeout for deleted language.)**

STANDARDS PRESENTATION
TO
CALIFORNIA OCCUPATIONAL SAFETY AND HEALTH STANDARDS BOARD

PROPOSED STATE STANDARD,
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* * * * *

(v) Gasoline-powered equipment and hoists shall not be **located** ~~used~~ on suspension scaffolds.
(w) Devices whose sole function is to provide emergency escape and rescue shall not be used as working platforms. This provision does not preclude the use of systems which are designed to function both as suspension scaffolds and emergency systems.

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

SUMMARY AND RESPONSE TO COMMENTS

SUMMARY AND RESPONSE TO ORAL AND WRITTEN COMMENTS

I. Written Comments

Mr. William T. Callahan, Jr., Ph.D., Executive Director, Associated Roofing Contractors of the Bay Area Counties, Inc., by letter dated July 5, 2000.

Comment:

Mr. Callahan stated that his association represents professional roofing contractors in 14 Metropolitan San Francisco Bay Area counties. Mr. Callahan believes that the proposed revision is an ill considered, impractical and unjustified ban on the use of gasoline-powered equipment on suspension scaffolds. Additionally, Mr. Callahan stated that the proposed ban would have an adverse financial impact on some association members who perform caulking and waterproofing operations on high rise buildings. Mr. Callahan believes the proposal would unnecessarily expose employees to additional hazards rather than mitigate hazards.

Mr. Callahan disputed statements contained in the Initial Statement of Reasons relating to the necessity for the proposed regulations, cost impact to small businesses, and the existence of any alternatives. Mr. Callahan indicated that there is no fire hazard risk associated with the use of gasoline-powered equipment on suspension scaffolds. Mr. Callahan stated that he is aware of a single incident that was reported to Federal OSHA and apparently formed the basis for the language contained in the Federal regulation that California is proposing to adopt into Title 8. Mr. Callahan discussed the Federal rationale for the language contained in 29 CFR 1926.451(d)(14). Mr. Callahan noted that Federal language originally proposed was to only prohibit the use of gasoline-powered hoists but Federal OSHA imposed a broader ban on all gasoline-powered equipment on the strength of a single equipment related accident. Mr. Callahan stated that Federal OSHA did not consider the cost to employers of banning the use of gasoline-powered equipment and did not consider the hazards associated with electrically or compressed air powered equipment. Additionally, Federal OSHA did not consider any alternative means of protecting employees from the fire hazard.

Mr. Callahan stated that his understanding of Federal OSHA's final decision on this matter was made "behind closed doors and at the 11th hour" with no opportunity for the regulated public to comment on the proposed language. Mr. Callahan stated that the California Administrative Procedure Act (APA) imposes more stringent obligations upon the Standards Board than those imposed on Federal OSHA. Consequently, the proposed ban on the use of gasoline-powered equipment does not pass legal muster.

Mr. Callahan noted that the Informative Digest states that if enacted, employers would have to switch to equipment that is powered by other energy sources and that no estimate for the switchover is given. Mr. Callahan stated that the cost to switch to non-gasoline-powered systems would be considerable.

Mr. Callahan further stated that contractors like the stand-alone advantage of gasoline-powered systems because it "stands alone" and is not dependent upon a source of energy (e.g., compressed air, electricity) to operate. Mr. Callahan explained that in high-rise situations, building windows usually cannot be opened, thereby making the use of alternatively powered equipment impractical. Mr. Callahan also indicated that power lines and/or air hoses routed to scaffolds could contribute to a tripping hazard, which is a far greater hazard than the fire hazard.

Mr. Callahan stated that both Federal OSHA and the Board staff did not fully consider alternatives to the proposed action. Mr. Callahan believes that there is one possible alternative to address the fire hazard that would be less burdensome to the employer and mitigate the tripping hazard discussed earlier. As an alternative, Mr. Callahan proposed employees be provided with fire extinguishers whenever gasoline-powered equipment is used on a suspension scaffold. Mr. Callahan proposed the following language shown in strikeout/underline format:

(v) Gasoline-powered ~~equipment and~~ hoists shall not be used on suspension scaffolds. When gasoline-powered equipment is used, a fire extinguisher of the appropriate size and class shall be present on the scaffold at all times.

Finally, Mr. Callahan noted that Labor Code Section 142.3 requires California's Occupational Safety and Health Standards to be "at least as effective as" (ALAEA) the corresponding Federal standard, but does not require that State and Federal standards be identical. In the opinion of Mr. Callahan, the above-proposed language would be different from the Federal requirement; however, it would be at least as effective as the Federal standard. Additionally, it would not create other hazards in the process of mitigating a relatively minor potential hazard. Consequently, Mr. Callahan requested the Board amend the proposed language in Section 1658(v) and replace it with the language proposed by the Associated Roofing Contractors of the Bay Area Counties, Inc.

Response:

Mr. Callahan's position appears to be predicated on his understanding that proposed new Section 1658(v) of the Construction Safety Orders *bans* the use of gasoline-powered equipment on suspension scaffolds. This is not entirely accurate.

Board staff contacted a representative from the U.S. Department of Labor, Occupational Safety and Health Administration (Federal OSHA), Region IX, to discuss the meaning and intent of 29 CFR 1926.451(d)(14). Proposed Section 1658(v) is verbatim of 29 CFR 1926.451(d)(14). According to Federal OSHA, 29 CFR 1926.451(d)(14) was not intended to ban the use of gasoline-powered equipment on suspension (suspended) scaffolds. The Federal requirement was only intended to prohibit the placement of the gasoline motor/fuel tank on the suspension scaffold.

The accident that triggered Federal OSHA to amend paragraph (d)(14) to prohibit the use of gasoline-powered equipment on suspension scaffolds resulted from a fueling mishap. During this mishap, gasoline came in contact with the muffler of the unit causing a flash and subsequent fire that spread along the scaffold trapping two workers at the ends of the scaffold. The employees were suspended six stories above the ground and suffered burns over 40% of their bodies. The

blaze was reportedly very difficult for local firefighters to suppress and could have involved the entire scaffold structure. Board staff contacted one of the workers (a member of the Boston Stone Masons and Asphalt Layers Union) involved in the accident and learned that in the employees' opinion the availability of a fire extinguisher would have made very little difference in the outcome. The fire spread so quickly that there was little time for the employee to do anything but attempt to get off the scaffold.

The most commonly encountered piece of gasoline-powered equipment on suspension scaffolds is the high-pressure water blaster used in conjunction with exterior building maintenance to clean the exterior of a building/structure. During a telephone conversation with a representative from one of California's largest professional high rise maintenance and restoration companies (HSG, Inc.), staff learned that it is industry practice to use gasoline-powered equipment. However, the gasoline motor and fuel tank portion of the system is always placed either on the roof of the building, at ground level, or at another elevated location where employees are not present. Hose extensions are used to reach the worker from the driving unit/motor of the system with no loss of performance in the system (in some cases up to 400 feet). The hoses are usually carefully arranged and routed onto the scaffold using devices known as hose managers to avoid the possibility of employees stepping on them, thereby, effectively mitigating any tripping hazards (see the July 18, 2000 comment letter from HSG, Inc. to the Standards Board).

Board staff surveyed at least a dozen other individuals including fire officials, consultants, high pressure water cleaning systems equipment staff, sales and service specialists, roofing contractors, suspension scaffold manufacturers, labor representatives, and a scaffold sales and erection company. With regard to proposed Section 1658(v) and Mr. Callahan's comments, staff established the following:

- While there have been no recorded cases of accidents involving fires on scaffolds attributable to gasoline-powered equipment in California, there have been incidents reported in other states involving employees burned on scaffolds while working with flammable materials.

The proposal does not ban gasoline-powered equipment on suspended scaffolds; it prohibits the gasoline motor from being placed on the suspended scaffold. It is acceptable to use gasoline-powered equipment on suspended scaffolds provided the motor (in effect the gasoline-powered part of the system) is located elsewhere. In fact, it is a generally accepted practice for small and large employers alike to place the unit on the roof, ground or other location.

- The tripping hazard is easily controllable using hose/wire managers that can be fabricated on the job if necessary using wire, rope, tape, or other binding materials to secure the hose to one side of the scaffold. The employer can obviate the need for hose managers by simply arranging the equipment so that the hose is brought directly from the equipment to the operator without having to drape or place it on the scaffold. Wire twist ties can be purchased in large quantities for a nominal cost.
- Typically, gasoline-powered equipment used in exterior building maintenance comes equipped with 50 feet of hose and can be retrofitted with longer hose at a cost of approximately \$1.70 per foot.

- Since this is not a ban on gasoline-powered equipment, there is not a switchover cost nor an issue of how to run lines to power electrical or compressed air equipment.
- The proposed alternative to provide fire extinguishers on scaffolds for use by workers will not provide safety equivalent to that provided by the proposed regulation. The idea of employees attempting to suppress a fire at an elevated location on a scaffold where there may not be enough "stand-back" room to direct a stream of fire suppressant is of particular concern to the fire officials contacted by Board staff. Flammable liquid fires are among the most difficult to contain and suppress.

Board staff discussed Mr. Callahan's suggested alternative language with a representative from Federal OSHA, Region IX, who stated that Mr. Callahan's alternative language to have a fire extinguisher on the scaffold does not effectively address the hazard of fires created by the presence of gasoline-powered motors on suspended scaffolds.

In response to Mr. Steve Johnson's oral comment at the November 16, 2000 Public Meeting, the language in 1658(v) was modified to clarify that gasoline-powered equipment may be used as long as the motor is not placed on the scaffold. Please see the Board's response to Mr. Johnson's November 16, 2000 comment. The Board thanks Mr. Callahan for his participation in the Standards Board's rulemaking process.

Mr. Marty Kloss, Vice President, Sales and Marketing, Tractel Inc., Griphoist Division, by letter dated July 12, 2000.

Comment:

Mr. Kloss stated that it is the position of Tractel Inc., (a major manufacturer of powered swing stage and suspended scaffold equipment) that gasoline-powered equipment should not be used on suspended scaffolds. Mr. Kloss believes that the practice of using gasoline-powered equipment on suspended scaffolds is a potentially dangerous situation that should not be allowed.

Mr. Kloss cited the hazards associated with the filling/refilling of gasoline-powered equipment stored on the side of a structure are significant and should be prohibited.

Response:

Board staff and the Board share Mr. Kloss' concern over the use of gasoline-powered equipment and the storage of fuel on suspended scaffolds.

The Board acknowledges Mr. Kloss' support for the proposal and thanks him for his interest in occupational safety and health.

Ms. Wendy M. Shaffer, Analyst, Regulations Review Unit, California Trade and Commerce Agency, by memorandum dated July 11, 2000.

Comment:

Ms. Shaffer stated that with regard to proposed Section 1637(u), the regulatory text does not define the meaning of the terms "storms," "high winds" or "qualified persons" nor are definitions for these terms incorporated by reference. Ms. Shaffer cited Government Code Section 11349(c) which defines "clarity" as meaning "...easily understood by those directly affected..." Ms. Shaffer also stated that the California Code of Regulations (CCR), Title 1, Section 16 states that a regulation shall be presumed to have not met the clarity standard if "...the regulation on its face can be reasonably and logically interpreted to have more than one meaning..."

Ms. Shaffer continued by stating that the "qualified person" who is required to determine whether conditions are safe for working on scaffolds may interpret "storms or high winds" differently than a Board inspector. Trade and Commerce is concerned that this may result in the Board issuing fines and/or citations to a business whose "qualified person" does not consider a particular situation to be a "storm or "high wind". Businesses may incur a cost impact by deciding to avoid potential liability by not doing work requiring scaffolds on certain days. Further, Ms. Shaffer stated the Board and businesses may disagree on who is a "qualified person". Ms. Shaffer recommended the Board define the terms "storms", "high winds" and "qualified person".

Ms. Shaffer suggested using existing definitions in the proposal such as CCR, Section 2940.3, which defines "inclement weather", and Section 2951(f), which defines "high wind". She stated that she was unable to find a definition for "qualified person".

Response:

By storm, the Board intends the following, which is taken from the Random House Webster's Collegiate Dictionary, 1985 edition, which defines the term storm as follows:

"Storm. A disturbance of normal atmospheric conditions manifesting itself by strong winds and often accompanied by rain, thunder, and lightning, snow, hail or sleet."

The Board staff wishes to emphasize that the proposed language places the responsibility of determining when it is safe for employees to be on a suspended scaffold on the employer through the use of a qualified person. In this case the employer would be responsible for ensuring that the qualified person is trained and instructed in the hazards associated with work on scaffolds during storms and when a storm is of sufficient intensity to warrant suspension of the work. The requirement is essentially performance based in order to allow the employer the discretion necessary to make the determination of when work must be suspended based on the unique conditions, special circumstances or other phenomena which may exist at the worksite.

The term "qualified person, attendant or operator" is defined in Title 8, Construction Safety Orders (CSO), Section 1504 and states:

"Qualified person, Attendant or Operator. A person designated by the employer who by reason of training, experience or instruction has demonstrated the ability to safely perform all assigned

duties and, when required, is properly licensed in accordance with federal, state, or local laws and regulations."

The proposed regulation requires a qualified person to determine whether or not a storm, as defined above, threatens the safety of workers on a scaffold. Board staff believes this determination is clearly within the intellectual capacity of a "qualified person" who by definition must possess the competency necessary via skills, training and/or experience to make such a determination.

Board staff does not believe businesses will unnecessarily stop work, and incur a related cost due to concerns regarding liability. A "qualified person" will have the ability to make the determination necessary to protect workers from being blown off or otherwise falling off a scaffold due to inclement weather which is consistent with the intent of the proposed regulation. Since the term qualified person is defined, Board staff does not believe there would be any confusion over who is qualified to make the determination of whether it is safe to work on a scaffold if the weather becomes inclement.

Consequently, given the existence of the definitions mentioned earlier, the Board believes it is unnecessary to use existing Electrical Safety Order definitions for "high wind" or inclement weather which were developed for and apply specifically to tree trimming operations and other high voltage electrical operations.

Therefore, the Board concludes modification of the proposed language is unnecessary. The Board thanks Ms. Shaffer for her participation in the Standards Board's rulemaking process.

Mr. Doug Hoffner, Director of Public Affairs, Roofing Contractors Association of California (RCAC), by letter dated July 12, 2000.

Comment:

Mr. Hoffner stated that the RCAC opposes the proposed language in Section 1658(v) which prohibits the use of gasoline-powered equipment on suspension scaffolds because it could impose a financial burden on small businesses in addition to creating the potential for tripping hazards created by the use of alternative equipment.

Mr. Hoffner stated that those RCAC members who provide waterproofing services to high-rise buildings would be required to use equipment powered by other sources. Purchasing new equipment would constitute a financial burden on small businesses. Mr. Hoffner stated that gasoline-powered equipment is the most effective equipment available. Mr. Hoffner also indicated that it would be difficult to find alternative power sources because windows on high-rise buildings do not open thus requiring long electrical extension cords or air hoses for compressed air powered equipment. Such cords could contribute to a trip hazard for persons on the scaffold.

Instead of banning the use of gasoline-powered equipment on suspended scaffolds, Mr. Hoffner stated the RCAC supports the alternative language recommendation made by the Associated

Roofers of the Bay Area Counties, Inc. which would require the employer to provide a fire extinguisher of the appropriate size and class on the suspension scaffold at all times.

Mr. Hoffner stated that the recommended alternative language would provide a cost-effective and appropriate level of safety in the unlikely event of a fire on a suspension scaffold without the associated trip hazards. For the reasons stated in his July 12, 2000 comment letter, Mr. Hoffner recommends the Board amend proposed Section 1658(v).

Response:

Mr. Hoffner's comments are substantially similar if not identical to those expressed in an earlier written comment to the Board. (See the Board staff's response to Mr. William T. Callahan, Jr., Ph.D., Associated Roofing Contractors of the Bay Area Counties, Inc.).

The Board wishes to reiterate that based on Board staff discussions with representatives from Federal OSHA, the proposed language does not intend to ban the use of gasoline-powered equipment on suspension scaffolds, only that portion of the apparatus that houses the internal combustion engine, fuel tank, etc., which provides power to the equipment. The Federal regulations and this proposal actually permit the use of gasoline-powered equipment on suspension scaffolds, provided the gasoline-powered engine/motor is placed at a safe location other than the suspension scaffold where the workers are performing their duties.

In response to Mr. Steve Johnson's oral comment at the November 16, 2000 Public Meeting, the language in Section 1658(v) was modified to clarify that gasoline-powered equipment may be used as long as the motor is not placed on the scaffold. The Board thanks Mr. Hoffner for his participation in the Standards Board's rulemaking process.

Mr. J. Nicholas Counter III, President, representing the Alliance of Motion Picture and Television Producers (AMPTP), by letter dated July 13, 2000.

Comment:

On behalf of AMPTP, Mr. Counter requested clarification to proposed Section 1637(u) that pertains to work on scaffolds during storms or high winds. Mr. Counter requested that "storms and high winds" be defined. Mr. Counter indicated that storms and high winds can be artificially created through special effects and referred to the recent motion picture "The Perfect Storm." Mr. Counter stated that AMPTP is under the assumption that the proposed revision does not address artificially created storms and high winds but without clarification it is not clear to the AMPTP if the proposed revision would apply.

In addition, Mr. Counter requested a definition for the term "qualified person" for purposes of making the determination of whether it is safe for a worker to be on a scaffold during storms or high winds. Mr. Counter asked if the supervisor of the unit who performs work on a scaffold is considered a "qualified person?"

Finally, Mr. Counter posed a separate and non-related question pertaining to the use of personal fall arrest systems. Mr. Counter indicated that safety professionals from AMPTP companies have

advised him that personal fall arrest systems are required to be secured to an anchor point that can sustain a load of 5000 pounds. Mr. Counter indicated that the safety professionals would like the anchor point identified on a scaffold.

Response:

As stated in the Board staff's response to Ms. Wendy M. Shaffer, Analyst, California Trade and Commerce Agency, the term "storm" is clearly defined within the Webster's Dictionary definition of "storm." Essentially, that definition contains a phrase that describes a storm as an *atmospheric disturbance*. It is Board staff's opinion that a man-made "storm" which takes place within the confines of a movie set for theatrical effect is not a "storm" as defined in the dictionary. A man-made special effect "storm" is not an atmospheric (pertaining to the gaseous envelope which surrounds the earth) disturbance as is found in nature where typically barometric pressure changes and/or fluctuates, cloud formations develop in the atmosphere, atmospheric wind speeds change and precipitation from the atmosphere is generated, etc. A man-made "storm" is a controllable event.

With regard to the definition of a "qualified person," this term is defined in Section 1504 of the CSO. Given that definition, it is Board staff's opinion that a unit supervisor could be considered to be a "qualified person." This is provided the unit supervisor by virtue of training, experience or specific instructions, has demonstrated the ability to make (in this case) the determination of whether or not, given the atmospheric conditions, work on scaffolds should be stopped due to storms or high winds. The qualified person criteria are spelled out in the definition.

Finally, with regard to Mr. Counter's question about acceptable 5000-pound personal fall protection system anchorage for employees working on scaffolds, Board staff offers the following information; the proposed language permits the use of wind screens to protect employees from being blown off of a scaffold in case of high winds provided the windscreens are designed to sustain the wind force imposed upon them. Where windscreens are infeasible, the employer will have to provide a personal fall arrest system. Such systems require anchorage capable of sustaining 5000 pounds per employee or which can maintain a safety factor of at least two and is used under the supervision of a qualified person [CSO, Article 24, Section 1670(b)(10)(A) and (B)].

Employers may consider attachment of the personal fall arrest system lanyard to either vertical or horizontal lifelines connected to suitable anchorage or to a scaffold structural member that is engineered to provide the required anchorage. Other points of anchorage that are typically used include structural members of the building excluding standpipes, vents, other piping systems, electrical conduits, outrigger beams or counterweights.

Board staff is unable to provide a specific scaffold anchorage point recommendation without knowing the type of scaffold and how it is being used. Mr. Counter should be aware that the current Title 8, Construction Safety Orders do not specifically require the use of personal fall arrest systems for employees working on scaffolds, however, when such systems are used they are to be installed under the supervision of a qualified person. Consequently, it is up to the individual employer to determine suitable anchorage.

Based on the information discussed in this response the Board believes no modification of the proposed language is necessary. The Board thanks Mr. Counter for his participation in the Standards Board's rulemaking process.

Mr. Hector S. Garcia, President, HSG, Inc. by letter dated July 18, 2000.

Comment:

Mr. Garcia stated that he is the owner of a commercial window cleaning company that services the Los Angeles, Orange County, San Diego, Sacramento and San Francisco areas. Mr. Garcia's company provides the following services to its customers throughout the state: window cleaning, curtain wall restoration, waterproofing, masonry restoration, wet glazing and pigeon control.

Mr. Garcia stated that he supports the proposed prohibition of gasoline-powered equipment on a swing stage (i.e., suspension scaffold). Mr. Garcia stated that it has been his experience that placing a small gasoline-powered pressure washer on a swing stage poses an eminent threat to workers on the stage. Mr. Garcia stated that despite working on buildings that range from 5-28 stories in height his workers have been able to work effectively by placing the pressure washing equipment on the roof.

Also, Mr. Garcia stated that by placing gasoline-powered equipment on the swing stage the stage loading limits are pushed beyond their capacity. This is particularly problematic not only for permanent installations but for temporary stages provided by the contractor and especially swing stages that are supported by temporary rigging such as a counter-weighted system.

Mr. Garcia emphasized that the operation of a gasoline-powered engine occupies a portion of the stage that prohibits the workers from traveling from one end of the stage to the other thus limiting the workers escape route should an incident occur. In addition, it also prevents the worker from reaching a fire extinguisher in the event one worker is incapacitated. Mr. Garcia also raised the issue of noise exposure to the workers on the swing stage, tenants of the building and neighboring building occupants, etc.

Mr. Garcia expressed a concern about possible contact between the gasoline-powered equipment and the standard polypropylene safety lines and any adverse effects as a result of such contact. Mr. Garcia stated the workers might use the lifelines and not be aware that the ropes were melting. He also indicated that on buildings over 11 stories it is standard practice for his workers to attach their power hoses to a specific safety line. Each section of the hose that is draped over the side is secured onto the safety line that is then lifted approximately five feet. In this way the rope supports the weight of the hose.

Mr. Garcia concluded that by utilizing one or more of the above methods it is not necessary to place potentially unsafe, heavy and loud gasoline-powered equipment on suspended scaffolds.

Response:

The Board staff and the Board concur with Mr. Garcia and acknowledge his support for the proposed language. The Board would like to thank Mr. Garcia for his interest in occupational safety and health and his participation in the Board's rulemaking process.

II. Oral Comments

Oral comments received at the July 20, 2000 Public Hearing in San Diego, California.

Mr. Richard Warner, representing Southern California Edison

Comment:

Mr. Richard Warner, Southern California Edison, stated that he had a concern over the phrase "during storms or high winds" as contained in the proposal. Mr. Warner indicated that he understands the intent of the regulation is to protect workers working on a scaffold. However, Mr. Warner stated that "storms" is a very broad reaching term. Mr. Warner gave an example of his employees working outdoors exposed to temperatures of 120 degrees in what the worker's would consider a heat storm. Mr. Warner believes the intent of the term "storms" is the inclement weather mentioned in the Initial Statement of Reasons. Further, Mr. Warner stated that the word "storm" is very broad and unclear as is the term "high winds." While Mr. Warner stated that he appreciates the ability to allow employers discretion in developing their own safety protocols, he feels the phrase "during storms and high winds" is too broad for everyone to interpret.

Response:

The Board notes that the common Webster's dictionary meaning of "storm" refers to a disturbance of the atmosphere marked by strong wind, and often accompanied by rain, snow, hail, sleet or thunder and lightning. This does not include periods of high or abnormally high heat such as a heat wave. There is no meteorological term corresponding to the term indicated by Mr. Warner; "heat storm."

The Board also notes that the proposal requires a "qualified person" (defined in CSO Section 1504) to make the determination as to whether or not it is safe for employees to be working on a scaffold. The term "qualified person" defines an employer designated individual who by virtue of training, experience and instruction has demonstrated that he or she is competent to (in this case) decide if work on or from scaffolds should be performed or stopped in the event of a storm.

Therefore, the Board believes the proposed terminology is sufficiently clear with regard to whether a period of high temperature (heat wave) is a storm given the definition described earlier. The intent of this regulation is to prevent employees from being injured or falling from a scaffold during a storm.

See also the Board staff's responses to Ms. Wendy M. Shaffer submitted on behalf of the California Trade and Commerce Agency and to Mr. J. Nicholas Counter III submitted on behalf of the Alliance of Motion Picture & Television Producers.

The Board concludes that modification of the proposed language is unnecessary. The Board thanks Mr. Warner for his comment and participation in the Board's rulemaking process.

Lynn Berman, Occupational Safety and Health Standards Board (Board) member, Jere Ingram, OSHSB Chairman, Victoria Bradshaw, OSHSB member, Michael Manieri Jr., Board staff, Ray Rooth, Division of Occupational Safety and Health (Division).

Board dialog and comments:

Ms. Berman asked Mr. Manieri if the term "storm" could be defined and still be at least as effective as Federal OSHA? Mr. Manieri stated that it would be speculation on his part to say that Federal OSHA might consider it to be over-broadening [to address heat storm]. Federal OSHA's intent was to address the plain English meaning of the word, which is, "an atmospheric disturbance marked by strong wind and rain" such as a thunderstorm or electrical storm, often accompanied by rain, snow, lightening, etc.

Chairman Ingram asked Mr. Manieri if a heat storm could fit the understanding of a "storm?" Mr. Manieri responded by stating that it would not fit within Webster's meaning of "storm" because the underlying intent is to identify an atmospheric condition that would constitute a potential peril for the workers (such as being blown off of a scaffold, impairing vision, or creating a slippery surface). Ms. Berman noted that in the past few years, "as effective as" has become to mean identical wording.

For Board members edification, Mr. Manieri noted that there is language within Title 8, High Voltage Electrical Safety Orders (HVESO), which talks about inclement weather and the term "high winds" is discussed in the HVESO, Tree Trimming standard. Also, the General Industry window cleaning standards specify a 25-MPH limit for winds, which is an equipment-specific requirement that only applies to a particular apparatus known as a powered platform found typically as a built-in device stored within the roof of high-rise buildings and extended when building maintenance is performed. It should also be noted that neither the HVESO requirement mentioned above nor the window cleaning regulations (Articles 5 and 6) require a qualified person to determine if the work must be stopped in case of a storm. The proposal applies to suspension scaffolds and requires a qualified person to determine on a case-by-case basis when atmospheric conditions constitute a threat to the safety of the worker. Adding the qualified person component allows for a more performance based standard.

Ms. Bradshaw stated that the East Coast could experience significant heat and call it a storm. Ms. Bradshaw added that the concern Mr. Warner is bringing up is that a heat storm may not be a storm in the public view. Ms. Berman asked if there were any definitions included or if it would be a problem to include definitions in this regulation? Mr. Manieri stated that there were no definitions included, however, he would review the information with Board staff to determine if it would be necessary to add definitions to the regulation.

Chairman Ingram stated that Board staff would request a letter of interpretation of "storm" from Federal OSHA. Chairman Ingram added that the regulations prohibit work from or on scaffolds during storms or high winds unless a qualified person determines that it is safe for employees to be on the scaffold.

Mr. Ray Rooth, stated that since the word "storm" is in the dictionary, he sees no reason to redefine it. Mr. Rooth also stated that regardless of the conditions, the work should be done under the direct supervision of a qualified person. It is up to the qualified person to determine if the work can be performed safely at anytime.

Response:

In responses to Ms. Wendy Shaffer, California Trade and Commerce Agency and Mr. J. Nicholas Counter III, Alliance of Motion Picture & Television Producers, Board staff relied upon the common English meaning of the term "storm" as clearly defined in Webster's Dictionary. See also Board staff's response to Mr. Richard Warner, Southern California Edison.

The Webster's definition of storm would not encompass a "heat storm" or what is better known as a "heat wave" as they are not atmospheric disturbances marked by winds, rain, snow, sleet, etc. Nor are they accompanied by fluctuations in barometric pressure. They are simply unusually high elevations in ambient temperature of varying duration. While a period of unusually high ambient temperature would make work on a scaffold uncomfortable from a heat stress perspective (an issue more appropriately addressed by applicable occupational health/industrial hygiene standards), it would have no impact upon prevention of employees falling or being blown off of a scaffold due to wind, rain or other forms of precipitation.

Consequently, the Board believes that based upon the forgoing argument, no modification of the proposal is necessary.

Ms. Victoria Bradshaw, OSHSB Member, Michael Manieri Jr., Board Staff, Ms. Sopac Tompkins, OSHSB member, Jere Ingram, OSHSB Chairman.

Board dialog and comments:

Ms. Bradshaw asked Mr. Manieri if the Federal standard addressed the issue of gas-powered equipment used on a scaffold to which Mr. Manieri responded that it did and that the Construction Safety Orders are silent on those particular issues.

Ms. Bradshaw asked Mr. Manieri if the Federal standard eliminated the use of gas-powered equipment on scaffolds to which Mr. Manieri replied that when Federal OSHA states that gas-powered equipment is prohibited on scaffolds, Federal OSHA means the gas-powered portion of the equipment (i.e., the motor, gasoline-powered motor and fuel tank) has to be placed somewhere other than on the scaffold.

Ms. Tompkins asked Mr. Manieri how practical it was to have the gas-powered equipment somewhere other than the scaffold to which Mr. Manieri replied that from the opinions he gathered within the last two weeks, it appears to be industry practice to relocate the equipment on the roof or a lower level and run lines to the unit on the scaffold. Having additional equipment on the scaffold contributes to added loading on the scaffold and people who work on the scaffold do not like to have the equipment obstructing what is already a confined space. It is a fire hazard and at least one accident involving scaffold workers has occurred.

Ms. Bradshaw asked Mr. Manieri if the Federal standard did not eliminate the use of gas-powered equipment as long as the equipment used is not on the scaffold and Mr. Manieri responded that was correct.

Ms. Tompkins stated that some comments the Board received indicated other language that would be "at least as effective as," in terms of a fire. Ms. Tompkins requested Board staff to determine if the comments are "at least as effective as."

Mr. Manieri stated that Board staff would explore the extinguisher issue and review existing language in the Orders on fire extinguisher use. Mr. Manieri stated that he has been in contact with the Fire Marshal and local fire authorities and they have expressed an opinion. From a fire safety standpoint, both State and local fire authorities advise against the use of gasoline-powered equipment on scaffolds.

Ms. Bradshaw asked if there had been any injuries in California related to these issues.

Mr. Manieri stated that Board staff prepared an evaluation based on statistics supplied by the Division. The statistics do not cite or document an occurrence in California involving a fire upon a suspended scaffold, although, there have been documented occurrences in other states.

Ms. Tompkins asked Board staff to identify the cost to small businesses to relocate the equipment off of the scaffold. Ms. Tompkins also asked for an analysis of the industries to determine if it is practical to relocate gas-powered equipment.

Mr. Manieri stated that Board staff contacted about 18 individuals who own and operate this equipment and people that service and sell this equipment. The consensus of the informal survey indicated that relocating the gasoline motor portion of the equipment to a location other than the scaffold is the generally accepted practice.

Ms. Bradshaw stated that the Board does not want to be in the position of correcting what is perceived to be a problem, which may not, in fact, be a problem.

Chairman Ingram stated that the Federal standard states that putting a gas-powered device on a scaffold is not to occur. Chairman Ingram added that if it is a Federal requirement, then there is an expectation that we have an equivalent standard.

Response:

Mr. Garcia provided Board staff with an explanation of why it is inappropriate to use gasoline-powered equipment on swing stage (suspended scaffolds). Mr. Garcia cited a number of concerns that include: 1. exceeding the safe load capacity of the scaffold; 2. exposing employees to the risk of fire on the scaffold; 3. reducing the working and traveling area on the scaffold and obstructing the worker's escape route in case of a fire; 4. exposing the worker, building tenants and tenants in proximity to the gasoline-powered equipment to excessive/annoying noise levels and; 5. increasing the risk of burning the polypropylene safety lines by contact with ignited gasoline in the event of a fire.

Mr. Garcia stated that it is his practice to locate the gasoline-powered portion of the equipment to the roof of the building and run hose to the equipment on the scaffold.

Board staff contacted a representative from a Sacramento-based company engaged in the sale and service of powered exterior building maintenance equipment to various building maintenance companies. Staff learned that hoses are frequently run up to 400 feet in length with no loss of equipment performance while the gasoline-powered portion of the equipment is placed on the roof or ground. The representative indicated that customers perform work from scaffolds using gasoline-powered equipment placed on the roof of the building or on the ground. This individual opined that the cost of placing the gasoline motor portion of the equipment on the roof is insignificant compared to the cost of the equipment. For example, gasoline-powered pressure washers range in cost from \$1500 to \$12,000. Typically, these units come equipped with 50 feet of hose and can be retrofitted with longer hose if necessary at approximately \$1.70 per foot. Staff also learned that these systems can be equipped with extension wands extending the reach of pressure washer to 18 feet for approximately \$225.

Board staff also contacted a leading manufacturer of suspension scaffolds, Tractel Inc., who stated that they do not recommend the use of gasoline-powered equipment on suspended scaffolds due to the risk of trapping employees on the scaffold should a fire occur. Board staff also contacted an independent consultant in scaffold design and erection who stated that the use of gasoline-powered equipment on a suspension scaffold should be prohibited and that the proper procedure is to relocate the gasoline-powered portion of the equipment to another location.

The consultant was also concerned with the idea of workers trying to combat a flammable liquid fire on a suspended scaffold. Board staff learned that to effectively fight such a fire a minimum "stand-back" distance from the worker to the base of the fire must exist in order to prevent splash back of the liquid and fire onto the employee. For this reason it would be ineffective to prescribe one type of fire extinguisher for a given scaffold since they will vary in length.

None of the individuals contacted by Board staff indicated there would be any significant or adverse cost impact upon small businesses as a result of the proposal since the proposal would not ban but only require the gasoline-powered portion of the equipment to be placed at a location other than on the suspended scaffold.

Fire authorities recommended that flammable liquids such as gasoline not be stored or handled on a suspended scaffold.

Results of the survey conducted by Board staff is contained in the non-rulemaking portion of this file.

Finally, Board staff discussed the proposed language with a representative from Federal OSHA Region IX. Alternatives to the proposed language such as the language suggested by the Roofing Contractors Association of the Bay Area Counties, Inc. and the Associated Roofing Contractors were discussed. As suspected by Chairman Ingram, Federal OSHA made very clear that they would not accept the alternative language suggested by the roofers. Federal OSHA stated that

there is no equivalent that would allow the gasoline-powered portion of the equipment to be on the suspended scaffold. Federal OSHA also stated that the requirement proposed by Board staff has been in effect in the United States since the promulgation of the Federal Subpart L scaffold regulations a number of years ago with no concerns or objections expressed by employers or employer associations in those states.

November 16, 2000, Public Meeting in San Diego, California

The Board reopened the floor to accept further public comments from Mr. Steve Johnson, Associated Roofing Contractors of the Bay Area Counties, Inc.

Comment:

Mr. Johnson's Association is concerned about proposed Section 1658, subsection (v) which states that gasoline-powered equipment and hoists shall not be used on suspended scaffolds. The Association understood that to mean that gasoline-powered equipment was to be banned. However, upon reading the Final Statement of Reasons, the actual intention is not to ban gas-powered equipment on suspended scaffolding, but to place it somewhere other than on the scaffold. The Association supports the proposed regulation as it is now explained, but not as it is written. The intent is not adequately covered by the wording and will cause unnecessary confusion among the regulated public. Mr. Johnson believes the proposed regulation as currently written does not meet clarity standards and should be reworded to clearly state what it means. Mr. Johnson requested that the Board reject the proposed regulation as written and rewrite it so that the meaning is clearly understood.

Response:

The Board and staff agree with Mr. Johnson and propose to modify the language in Section 1658(v). Additionally, comments addressing the ban of gasoline-powered equipment on suspended scaffolds were received from Mr. William Callahan, Jr., Ph.D., Associated Roofing Contractors and Mr. Doug Hoffner, Roofing Contractors Association of California. Due to the nature of the comments expressing opposition to what was perceived as a ban on gasoline-powered equipment, the Standards Board staff revised Section 1658(v) to state:

"(v) Gasoline-powered equipment and hoists shall not be located ~~used~~ on suspension scaffolds."

The Board and staff believe that replacing the word "used" with "located" will clearly indicate to the employer that, consistent with the intent of the regulation, gasoline-powered equipment may be used by employees who work from suspended scaffolds, but is to be located elsewhere and not placed on the scaffold.

The Board thanks Mr. Johnson for his comment and participation in the Standards Board's rulemaking process.