

26 April 2019

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Division of Occupational Safety and Health
California DOSH of Industrial Relations
1515 Clay Street
Oakland, CA 94612

RE: Protection from Wildfire Smoke Draft Proposal

Dear Ms. Neidhardt:

The Phylmar Regulatory Roundtable (PRR) appreciates this opportunity to provide comments on the Division of Occupational Safety and Health's (DOSH's) 12 April 2019 draft proposal for an emergency regulation for "Protection from Wildfire Smoke." PRR is a group of 40 companies and utilities; 15 of the members rank among the Fortune 500. Combined, PRR members employ more than 847,000 individuals in the U.S. and have annual revenues of more than \$937 billion. PRR members are committed to improving workplace safety and health. Toward that end, PRR provides informal benchmarking and networking opportunities to share best practices for protecting employees. In addition, participating entities work together in the rulemaking process to develop recommendations to federal and state occupational safety and health agencies for effective workplace regulatory requirements.

Of particular note, some PRR members are among those responding to restore power, water, and communications systems during and after a wildfire. These members have had procedures in place for years to protect employees while they work to restore these systems. Others have developed policies and procedures more recently as they experienced wildfire smoke exposure despite not being directly involved in wildfire response.

PRR comments were developed based on the experience, guidance and recommendations of PRR members. Of course, the opinions expressed below are those of PRR, and can differ from beliefs and comments of individual PRR members.

PRR recognizes that wildfires have become more prevalent and dangerous in recent years, and we believe that health hazards of wildfire smoke are among those that can and should be included in an employer's Injury and Illness Program when its employees may reasonably be expected to be exposed to such hazards. As DOSH has recognized, there are other existing Cal/OSHA regulations that are applicable to some wildfire smoke exposures (DOSH Petition 573 Evaluation Section 4); and the Fed/OSHA requirements for respiratory protection for this purpose are the same (DOSH Petition 573 Evaluation Section 5). Thus we believe that no emergency regulation is needed or appropriate here. Nevertheless, we understand that DOSH and the Board see it differently and are moving forward with an emergency regulation.

General Comments

Wildfire Smoke Situations Should Be Treated Differently From Typical Workplace Safety and Health Issues In a Regulatory Context – As we have seen, wildfires can be catastrophic; they seem to be occurring with increasing frequency and resulting in significantly more damage than used to be the case. PRR believes that any emergency regulation **MUST** take into account that restoring operations in the power, water, and communications sectors is of critical importance in wildfire recovery efforts. We are concerned that the regulation as drafted may impair these efforts. Further, it is critically important to remember that wildfire smoke exposure results from an emergency condition, wildfires themselves. DOSH and the Board are well aware that emergency circumstances require greater flexibility for employers in protecting employee safety and health and relief from regulatory burden that can slow or hinder such efforts. One example is 8 CCR [5141\(c\)](#) which provides relief from the usual hierarchy of controls during emergencies, to better allow the use of respiratory protection. We recommend this approach as a guiding principle in developing the emergency regulation.

As a result, we urge DOSH to take a step back and think “outside the box” with regard to several of the provisions in the draft regulation, particularly with regard to the scope, controls, and training subsections. Wildfires break out without notice and require immediate response by different industries and employers. The emergency circumstances found by the Board concern outdoor employment, not indoor employment. Implementing traditional engineering controls is simply not practical, will require expenditure of resources needed more urgently in other places, and may not actually protect any workers who, by the time a structure has been built, are likely no longer working in that area. When time is of the essence, particularly but not exclusively when individuals are depending upon restoration of communications, water and power, to stand down to conduct traditional training is problematic and would lead to a delayed response.

Specific Comments

PRR comments and recommendations are listed under the appropriate sections as identified in the 12 April 2019 draft. Any revised and/or additional content PRR recommends is in **bold**; suggested deletions are in ~~strikethrough~~. A redlined version of the draft regulation is also attached for your convenience. We offer the following comments and recommendations for your consideration:

Subsection (a) Scope

A. Recommendations for (a)(1):

CONCERN: The Term “Workplaces” is Overly Broad and Should Be Limited to “Outdoor Workplaces” and the AQI is Not an Appropriate Basis for an Occupational Health

Regulation: It must be clear that this regulation applies to “Outdoor Workplaces” only. The current language may lead to confusion as to which workplaces are actually covered.

In addition, PRR is concerned about the use of a threshold developed for environmental not occupational exposure. The Air Quality Index (AQI) is not an 8 hour time-weighted average, and it was intended to educate the general public, to include children, the elderly and those with various disabilities, not specifically workers and how and when workers may be exposed.

However, we are not able to recommend an alternative that would be easily applied during wildfire emergencies.

Our recommended language below addresses only the appropriate scope of the standard as that is of greatest concern.

Recommended Language for subsection (a)(1):

This section applies to **outdoor** workplaces where the Air Quality Index (AQI) for PM2.5 is greater than 150, regardless of the AQI for other pollutants, and

Rationale:

The Board’s finding of need for an emergency standard only found an emergency for *outdoor* workplaces: The “Board finds specific grounds for considering exposure of **outdoor** workers to wildfire smoke events to constitute the basis for an emergency regulation”. Board Decision p. 10. (emphasis added). Thus, the emergency regulation must be limited to outdoor workplaces. While wildfire smoke can sometimes impact indoor workplaces, there is no evidence, and no Board finding, that such exposure rises to the level of an emergency. Such exposures can be considered in development of a permanent regulation, but are not appropriately part of this emergency regulation. It is also critically important that the emergency regulation make clear that it is so limited. Compliance and enforcement efforts should be devoted to true emergency situations. Further, experience has shown that N95s and other respirators are in short supply during wildfires. It is important that this not be exacerbated by an emergency regulation mandating respiratory protection in non-emergency circumstances.

B. Recommendations for (a)(1)(A):

CONCERN: Language is Overly Broad and Needs to be Limited to Affected

Workplaces: Currently, the subsection applies any time there has been a wildfire smoke advisory. This is overly broad.

Recommended Language for subsection (a)(1)(A):

A wildfire smoke advisory has been issued by a local, regional, state, or federal government agency **for the area in which the workplace in question is located**~~;~~~~or~~

Rationale:

The revised language clarifies that this subsection applies to affected workplace locations only.

C. Recommendations for (a)(1)(B):

CONCERN: “Realistic Possibility” Language is Overly Broad and Lacks Clarity:

As examples, a “realistic possibility that employees may be exposed to wildfire smoke” exists whenever an employee walks from the parking lot into the office building, or between buildings on a corporate campus in an area impacted by wildfire smoke. This is unreasonable and PRR members are uncertain about the interpretation of “realistic possibility”. The meaning becomes even less clear when combined with “may be exposed.” Although the language in the (f)(1) Exception does not require engineering controls for exposures of less than an hour in duration, PRR members question whether voluntary use of

respirators is appropriate in such situations. Moreover, there is no need for this clause. Any such “realistic possibility” would be addressed by the issuance of a wildfire smoke advisory from a regulatory body.

Recommended Language for subsection (a)(1)(B):

~~There is a realistic possibility that employees may be exposed to wildfire smoke.~~

Rationale:

We agree with the language in the (f)(1) Exception that for employees exposed to PM2.5, corresponding to an AQI exceeding 150 for less than one hour during a shift. This expresses the fact that “dose” is a function of concentration (in this case, PM2.5) **and** duration of exposure to that concentration. Occupational health standards are established to prevent occupational illnesses from occurring by controlling employee exposure to, or below, that dose. We are not aware of the term “realistic possibility” being used in Title 8, and employers do not understand its meaning.

D. Recommendation for (a) Note 2:

CONCERN: Note 2 Belongs in a Guidance Document, Not a Regulation: Extraneous information can be confusing to employers and employees.

Recommended Language for (a) Note 2:

~~Note 2: Information on areas where smoke from wildland fires may be of concern and wildfire smoke forecasts are provided by the Wildland Fire Air Quality Response Program (WFAQRP) of the U.S. Forest Service.~~

Rationale:

Having multiple sources listed implies a requirement that employers must look at all sources identified in the regulation, which would be impracticable, burdensome without any benefit to employees, and time-consuming (when time is of the essence). While helpful, this information belongs in a guidance document, not the regulation, which should be kept simple and easy to follow for employers and employees.

E. Recommendation for (a)(2)(A):

CONCERN: Regulation Should Be Limited to Outdoor Workplaces Only: See above.

Recommended Language for (a)(2)(A):

~~Enclosed buildings or structures where the air is filtered by a mechanical ventilation system and employee exposure to outdoor or unfiltered air is effectively limited.~~

Rationale: As noted above, DOSH is empowered to develop a proposed emergency regulation for outdoor workplaces, not indoor workplaces, so the regulation can and should only apply to outdoor workplaces so we recommend deleting this subsection. If DOSH decides to leave the language in, at a minimum, it should delete the “effectively limited” language because it is vague and, at the time of an emergency, employers will not know how to demonstrate compliance. In promulgating standards governing toxic materials or harmful

physical agents, the standard must be expressed in terms of objective criteria and performance desired. Cal. Labor Code 144.6.

F. Recommendation for (a)(2)(B):

CONCERN: The Current Language is Vague and Should Be Simplified: Regulations, especially emergency regulations, need to be simple so both employers and employees can easily interpret and follow them. This subsection is overly complicated.

Recommended Language for (a)(2)(B):

Enclosed **air conditioned** vehicles. ~~where the air is filtered by a cabin air filter and employee exposure to outdoor or unfiltered air is effectively limited.~~

Rationale: The simplified language makes this subsection clearer and easier to understand.

G. Recommendation for (a)(2)(E):

CONCERN: The Term “lifesaving” is Unduly Restrictive.

Recommended Language for (a)(2)(E):

Emergency response personnel performing **lifesaving** emergency rescue and evacuation.

Rationale: Emergency rescue and evacuation is not limited to lifesaving, and we believe that employers providing direct support to firefighters and other emergency response personnel should be excluded from the regulation as well.

H. Recommendation for (a)(3) – Support Provision that Employer Complying with 5141.1 is Considered Compliant with sections 5141 and 5155 for PM2.5 with an AQI over 150:

PRR appreciates that DOSH recognizes that employer options for voluntary use of respirators are currently limited under 5141 by requirements for providing a copy of Appendix D and by Division interpretation that voluntary use is only acceptable when the employer can demonstrate through exposure monitoring that employees are not exposed to contaminants in 5155 above the permissible exposure limits. PRR supports the language in subsection (a)(3) of the draft regulation. This is an appropriate and important use of an emergency regulation, to relieve a regulatory burden that will allow better access to respiratory protection during wildfire events.

I. Recommendations for subsection (b) Definitions:

CONCERN: Regulation Can and Should Be Limited to Outdoor Workplaces Only: As noted above, the regulation should only apply to outdoor workplaces so the below definitions should be removed. The rule for vehicles should also be simplified as noted above. Further, MERV 13 is just coming on line in residential construction. It is not realistic to use it as a standard here.

Recommended Language for (a)(2)(E):

Air Quality Index (AQI). The official index for reporting air quality based on the National Ambient Air Quality Standards set by the U.S. Environmental Protection Agency under the federal Clean Air Act. AQI requirements are specified in the Code of Federal Regulations (CFR) at 40 CFR section 58.50, Index Reporting, and 40 CFR Appendix G to Part 58, Uniform Air Quality Index (AQI) and Daily Reporting. The AQI index is divided into six

categories as shown in the table below (adapted from Table 2 of 40 CFR Appendix G to Part 58).

~~**Effective filtration of PM2.5.** An area within enclosed buildings, structures, or vehicles that meets either of the following:~~

~~(1) The air is filtered by mechanical ventilation system(s) with MERV 13 or equivalent filters, or by more effective filters such as HEPA filters; or~~

~~(2) The concentration of PM2.5 corresponds to an AQI of 150 or less.~~

~~**High-efficiency particulate air (HEPA) filter.** A filter that is at least 99.97 percent efficient in removing particles 0.3 micrometers in diameter.~~

~~**MERV.** Minimum Efficiency Reporting Value for air filters established by the American Society of Heating, Refrigerating and Air-Conditioning Engineers Standard 52.2-2017 Method of Testing General Ventilation Air-Cleaning Devices for Removal Efficiency by Particle Size.~~

NIOSH. The National Institute for Occupational Safety and Health of the U.S. Centers for Disease Control and Prevention. NIOSH tests and approves respirators for use in the workplace.

PM2.5. Particulate matter (solid particles and liquid droplets) suspended in air with an aerodynamic diameter of less than 2.5 micrometers.

Wildfire Smoke. Emissions from ~~planned or~~ unplanned fires in “wildlands” (as defined in section 3402), wildland-urban interfaces, or adjacent developed areas.

Rationale: The above deleted definitions are appropriate for consideration in a permanent rulemaking but not in an emergency rulemaking where a full risk assessment and reasonableness analysis cannot be made. In addition, a wildfire is by definition a destructive unplanned event and planned fires do not constitute an emergency or give rise to a need for an emergency regulation.

J. Recommendations for subsection (c) Identification of Harmful Exposures:

CONCERN 1 – Mobile Crews: The first sentence is a requirement that an employer check the AQI forecasts and the current AQI on the AirNow website. The second sentence requires the employer to “determine the AQI where employees are located, before each shift, and periodically thereafter as needed.” Some PRR members have extensive mobile crews that are in various locations during the course of a day. It would be impractical, and sometimes infeasible, to track all the AQI forecasts which may bear no relationship to the actual AQI at a given time and location. Moreover, it would be virtually impossible for employers with mobile workforces to track local conditions for each employee in a sufficiently specific and timely manner.

Moreover, PRR members are concerned that the AirNow website is not always a reliable source to obtain an AQI. We understand that the website crashed during past wildfires due to over-capacity. We recommend that DOSH carefully review this issue and if that problem

persists, referral to the AirNow website should not be required. Nor should employer have to track multiple websites. If there is not a single reliable source, this would be yet another reason not to use the AQI standard itself.

Recommended Language:

Whenever an employee may reasonably be expected to be exposed to an AQI **for PM2.5** greater than 150, the employer shall check AQI forecasts and the current AQI on the AirNow website. The employer shall determine the AQI where employees are located, before each shift, and periodically thereafter as needed. ~~The employer may also obtain AQI forecasts and the current AQI from the California Air Resources Board, the local air pollution control district, or the local air quality management district.~~ **Exception: for mobile employees and crews, an employee working alone or a designated crew member may be required to periodically check the AQI for PM2.5 and communicate to the employer any air quality concerns or local conditions that adversely impact air quality.**

Rationale for Recommended Language:

The removed language is helpful, but not regulatory in nature and belongs in a guidance document not an emergency regulation which should be kept as simple and easy to read as possible to best ensure compliance during emergency conditions.

In addition, an exception for mobile employees is also appropriate for the reasons stated above. This issue was also recognized with the outdoor heat illness prevention standard, and an attempt was made to address this issue by requiring two-way communication between the employer and the mobile or solo employee who would be in the best position to monitor local conditions. See 8 CCR 3395(e). Employers should be able to rely on employees to let them know when conditions worsen and other action is needed.

K. Recommendations for subsection (d) Communication:

CONCERN about (d)(1): PRR members, and most employers in the state do not employ trained meteorologists. Requiring employers and employees to always be able to identify changing wind patterns, temperature inversions, or other factors leading to a worsening of air quality is infeasible, that is, not capable of being done, amidst the response to the wildfire emergency.

Recommended Language:

(1) ~~Informing~~ **Communicating with** employees ~~about of:~~ ...

Rationale: See recommendations above for subsection (c). PRR recommends that DOSH consider delegating some duties to the mobile employees who would be in the best position to monitor local conditions. This language encourages two-way communication so that both employer and employees stay informed and decisions made as to what they can reasonably do in an emergency.

L. Recommendations for subsection (e) Training:

CONCERN 1: PRR members are often involved in restoring power, water, and communications systems to communities and areas that have been affected by wildfires,

among other activities in areas impacted by wildfire smoke. PRR members involved in these efforts conduct pre-job briefings, tailgate meetings, or other on-the-job instruction in the safety and health hazards of the work environment and the measures employees must take to protect their health. Wildfires are unannounced events in most cases, requiring immediate response. Stopping to conduct training, which for PRR members involves development of curricula, attendance rosters, and following tracking processes, will delay the much-needed immediate response. PRR members have found that classroom training is often less effective than on-the-job instruction.

Recommended Language:

(e) Instruction. ~~Training.~~ The employer shall provide employees with **instruction** ~~effective training~~ on all of the following:

Rationale for Recommended Language: Wildfire events, although more frequent in recent years, are not commonplace working situations. PRR recommends that DOSH recognize this truth and diverge from its typical rulemaking approach. The words “effective training” have been used since 1991 in the Injury and Illness Prevention Program and have a particular interpretation (i.e., a compliance officer asks for “training records”). What is most important in emergency restoration efforts is that employees are instructed in how to protect themselves from the hazard of wildfire smoke. We urge DOSH to keep its eye on the goal here, which is to protect workers during wildfire events.

M. Recommendation for (f)(1) – Control of Harmful Exposures to Employees

CONCERN: Again, PRR respectfully requests DOSH to step back from its typical rulemaking approach and understand that it almost always will make no sense for employers to attempt to control exposures to PM2.5 through engineering controls during emergency conditions.

In addition, as stated during the Public Meeting portion of the OSH Standards Board 3/21/19: PRR is concerned that the DOSH staff evaluation emphasizes “feasible engineering controls” such as enclosed structures. We question the appropriateness of applying the traditional hierarchy of controls to wildfire smoke emergency conditions. Constructing enclosed and ventilated structures is just not realistic or practical. By the time the structures are completed, the smoke hazard has likely passed. Expenditure of resources in this manner is wasteful, particularly in light of other urgent needs at this time to restore power, water and communications systems, etc.

Recommended Language:

~~(1) Engineering Controls. Employee exposures to PM2.5 corresponding to an AQI exceeding 150 shall be prevented by engineering controls whenever feasible, such as providing enclosed structures or vehicles with effective filtration of PM2.5 for employees to work in.~~

~~EXCEPTION to subsection (f)(1). The employer is not required to implement engineering controls for employees who are exposed to PM2.5 corresponding to an AQI exceeding 150 for less than one hour during a shift.~~

~~(2) Administrative Controls. Whenever engineering controls are not feasible or do not reduce employee exposures to PM2.5 corresponding to an AQI of 150 or less, administrative controls shall be implemented, if practicable, such as relocating work to a location where the AQI is lower, changing work schedules, reducing work intensity, or providing additional rest periods.~~

(1) Engineering and Administrative Controls. Covered employers shall consider whether it is practicable to provide engineering controls (such as access to indoor environments or air conditioned vehicles for rest breaks) and administrative controls such as relocation of work, change of work schedules, reduction of physical intensity of work, or providing additional rest breaks.

Rationale for Recommended Language:

This is an emergency regulation, designed to address emergency conditions. While the feasibility of engineering and administrative controls is certainly an appropriate topic for consideration during a permanent rulemaking process, it is not appropriate to require such additional controls as part of an emergency regulation with virtually no opportunity for input on the feasibility of such controls, particularly where there is no evidence that such additional controls will be practicable in emergency conditions, or will, in fact, protect even one worker. Further, it has long been recognized by the Standards Board that respiratory protective equipment “shall be used to prevent harmful exposures . . . in emergencies” 8 CCR 5141(c)(3).

During wildfire events, there are many demands for building structures intended to provide shelter for victims. Using resources to build structures for outdoor workers when employees may not even be at the location by the time the construction is completed is wasteful, unnecessary, and does nothing to benefit worker health or safety.

N. Recommendation for (f)(2) – Control by Respiratory Protective Equipment.

CONCERN: A proper risk assessment needs to be performed before requiring respirators. Wearing respirators may also exacerbate exposure to heat illness. Further, using Appendix A in lieu of Appendix D will only be appropriate if Appendix A provides simpler requirements than Appendix D.

Recommended Language:

(3) Control by Respiratory Protective Equipment. Where ~~feasible engineering controls and administrative controls fail to eliminate~~ employees **are exposed for an hour or longer exposure** to PM2.5 corresponding to an AQI of 150 or ~~more~~**less, employers shall comply with the following:**

(A) ~~Where the AQI exceeds 150 and is less than 301,~~ the employer shall **encourage the use of respirators and either** provide respirators to all employees for voluntary use **or permit employees to use their own respirators for voluntary use** ~~in accordance with section 5144 and encourage employees to use respirators.~~ Respirators shall be NIOSH-approved devices that effectively protect the wearers from inhalation of

PM2.5 (such as N95 filtering facepiece respirators). Respirators shall be NIOSH-approved devices that effectively protect the wearers from inhalation of PM2.5 (such as N95 filtering facepiece respirators). Respirators shall be cleaned, stored, and maintained so that they do not present a health hazard to users. Employers shall use Appendix A to this section in lieu of Appendix D to section 5144 for training regarding voluntary use of respirators.

~~NOTE 1 for subsection (f)(3)(A). Respirator use is not required when the AQI is less than 301.~~

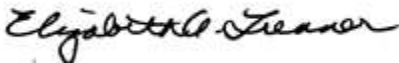
~~NOTE 2 for subsection (f)(3)(A). For voluntary use of filtering facepieces, such as N95 respirators, section 5144 does not require fit testing or medical evaluations. For voluntary use of respirators that are not filtering facepieces, such as those with an elastomeric facepiece, section 5144 does not require fit testing, but does require medical evaluations.~~

~~(B) Where the AQI is 301 or greater, respirators shall be used in accordance with section 5144. The assigned protection factor of respirators shall ensure that the concentration of PM2.5 inside the respirator corresponds to an AQI of 150 or less.~~

Rationale for Recommended Language: We believe that a proper assessment must be done before requiring respirators. In addition, care must also be taken to minimize the potential for a shortage of appropriate respirators for both occupational safety and public safety use so they remain available when they are most needed.

In conclusion, PRR supports the intent of the regulation, which is to reduce the health effects experienced by worker exposure to PM2.5 during wildfire events. We look forward to continued participation in this important process. Please let me know if you have any questions.

Sincerely,



Elizabeth Treanor
Director
Phylmar Regulatory Roundtable – OSH Forum

cc: Juliann Sum
Eric Berg

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§5141.1. Protection from Wildfire Smoke.

(a) Scope.

- ~~(A)~~ This section applies to outdoor workplaces where the Air Quality Index (AQI) for PM2.5 is greater than 150, regardless of the AQI for other pollutants, and a wildfire smoke advisory has been issued by a local, regional, state, or federal government agency for the area in which the workplace in question is located.~~;~~~~or~~ There is a realistic possibility that employees may be exposed to wildfire smoke.

Note 1: The AQI and AQI forecasts are available from the U.S. Environmental Protection Agency AirNow website, California Air Resources Board, air pollution control districts, and air quality management districts.

~~Note 2: Information on areas where smoke from wildland fires may be of concern and wildfire smoke forecasts are provided by the Wildland Fire Air Quality Response Program (WFAQRP) of the U.S. Forest Service.~~

For the advisory meeting, some additional sources for wildfire smoke and air quality are:

<http://californiasmokeinfo.blogspot.com>

<https://inciweb.nwcg.gov/>

https://www.airnow.gov/index.cfm?action=topics.smoke_wildfires

<https://fires.airfire.org/outlooks>

<https://sites.google.com/firenet.gov/wfaqrp-external/home>

(1) The following workplaces and operations are exempt from this section:

- ~~(A)~~ Enclosed buildings or structures where the air is filtered by a mechanical ventilation system and employee exposure to outdoor or unfiltered air is effectively limited.
- ~~(B)~~ (A) Enclosed air conditioned vehicles, ~~where the air is filtered by a cabin air filter and employee exposure to outdoor or unfiltered air is effectively limited.~~
- ~~(C)~~ (B) The employer demonstrates that the concentration of PM2.5 in the air does not exceed a concentration that corresponds to an AQI of 150.
- ~~(D)~~ (C) Firefighters engaged in wildland firefighting.
- (D) Emergency response personnel performing lifesaving emergency rescue and evacuation.

(2) ~~For~~ workplaces covered by this section, an employer that is in compliance with this section will be considered compliant with sections **5141** and **5155** for PM2.5 with an AQI over 150.

(b) Definitions.

Air Quality Index (AQI). The official index for reporting air quality based on the National Ambient Air Quality Standards set by the U.S. Environmental Protection

Agency under the federal Clean Air Act. AQI requirements are specified in the Code of Federal Regulations (CFR) at 40 CFR section 58.50, Index Reporting, and 40 CFR Appendix G to Part 58, Uniform Air Quality Index (AQI) and Daily Reporting. The AQI index is divided into six categories as shown in the table below (adapted from Table 2 of 40 CFR Appendix G to Part 58).

AQI Categories for PM2.5

Air Quality Index (AQI) Categories for PM2.5	PM2.5 in micrograms per cubic meter (µg/m3)	Levels of Health Concern
0 to 50	0 to 12.0	Good
51 to 100	12.1 to 35.4	Moderate
101 to 150	35.5 to 55.4	Unhealthy for Sensitive Groups
151 to 200	55.5 to 150.4	Unhealthy
201 to 300	150.5 to 250.4	Very Unhealthy
301 to 500	250.5 to 500.4	Hazardous

~~**Effective filtration of PM2.5.** An area within enclosed buildings, structures, or vehicles that meets either of the following:~~

- ~~(1) — The air is filtered by mechanical ventilation system(s) with MERV 13 or equivalent filters, or by more effective filters such as HEPA filters; or~~
- ~~(2) — The concentration of PM2.5 corresponds to an AQI of 150 or less.~~

~~**High efficiency particulate air (HEPA) filter.** A filter that is at least 99.97 percent efficient in removing particles 0.3 micrometers in diameter.~~

~~**MERV.** Minimum Efficiency Reporting Value for air filters established by the American Society of Heating, Refrigerating and Air Conditioning Engineers Standard 52.2-2017 Method of Testing General Ventilation Air-Cleaning Devices for Removal Efficiency by Particle Size.~~

NIOSH. The National Institute for Occupational Safety and Health of the U.S. Centers for Disease Control and Prevention. NIOSH tests and approves respirators for use in the workplace.

PM2.5. Particulate matter (solid particles and liquid droplets) suspended in air with an aerodynamic diameter of less than 2.5 micrometers.

Wildfire Smoke. Emissions from ~~planned or~~ unplanned fires in “wildlands” (as defined in section **3402**), wildland-urban interfaces, or adjacent developed areas.

(c) **Identification** of harmful exposures. Whenever an employee may reasonably be expected to be exposed to an AQI for PM2.5 greater than 150, the employer shall check AQI forecasts and the current AQI on the AirNow website. The employer shall determine the AQI where employees are located, before each shift, and periodically thereafter as needed. ~~The employer may also obtain AQI forecasts and the current AQI from the California Air Resources Board, the local air pollution control district, or the local air quality management district.~~ Exception: for mobile employees and crews, an employee working alone, or a designated crew member may be required to periodically check the AQI for PM2.5 and communicate to the employer any air quality concerns or local conditions that adversely impact air quality.

(d) **Communication.** The employer shall establish and implement a system for communicating wildfire smoke hazards, as required by section 3203, in a form readily understandable by all affected employees without fear of reprisal. The system shall include effective procedures for:

(1) ~~Communicating with~~ Informing employees aboutof:

(A) ~~The~~ Current PM2.5 levels;

(B) Changes in conditions that may lead to a worsening of air quality, such as changing wind patterns or temperature inversions when aware; and

(C) Protective measures available to employees to reduce their wildfire smoke exposures.

(2) Encouraging employees to inform the employer of:

(A) Worsening of air quality;

(B) Changes in conditions that may lead to a worsening of air quality, such as changing wind patterns; and

(C) Any adverse symptoms likely resulting from wildfire smoke exposure such as asthma attacks, difficulty breathing, and chest pain.

(e) **Instruction ~~Training~~.** The employer shall provide employees with effective ~~training~~ instruction on all of the following:

(1) Health effects of wildfire smoke.

(2) The employer's communication system required by subsection (d).

(3) The right to obtain medical treatment in the event of injury or illness without fear of reprisal.

(4) How employees can check the AQI at their location.

(5) Requirements of this section.

(6) Employer's methods to protect employees from wildfire smoke.

(7) Importance, limitations, and benefits of using a respirator when exposed to wildfire smoke.

(8) How to properly put on, use, and maintain the respirators provided by the employer.

(9) What actions to take if an emergency evacuation of the work area becomes necessary. NOTE: See Appendix A of this section for information required to be included in employee training.¹

(f) Control of harmful exposures to employees.

(1) ~~Engineering and Administrative Controls. Covered employers shall consider whether it is practicable to provide engineering controls (such as access to indoor environments or air conditioned vehicles for rest breaks) and administrative controls (such as relocation of work, change of work schedules, reduction of physical intensity of work, or providing additional rest breaks. Engineering Controls. Employee exposures to PM_{2.5} corresponding to an AQI exceeding 150 shall be prevented by engineering controls whenever feasible, such as providing enclosed structures or vehicles with effective filtration of PM_{2.5} for employees to work in.~~

~~EXCEPTION to subsection (f)(1). The employer is not required to implement engineering controls for employees who are exposed to PM_{2.5} corresponding to an AQI exceeding 150 for less than one hour during a shift.~~

~~(2) Administrative Controls. Whenever engineering controls are not feasible or do not reduce employee exposures to PM_{2.5} corresponding to an AQI of 150 or less, administrative controls shall be implemented, if practicable, such as relocating work to a location where the AQI is lower, changing work schedules, reducing work intensity, or providing additional rest periods.~~

~~(23) Control by Respiratory Protective Equipment. Where feasible engineering controls and administrative controls fail to eliminate employees are exposed for one hour or more exposure to PM_{2.5} corresponding to an AQI of 150 or above less, employers shall comply with the following:~~

~~(A) Where the AQI exceeds 150 and is less than 301, the employer shall encourage the use of respirators and provide respirators - or permit employees to use their own respirators to all employees for voluntary use, in accordance with section 5144 and encourage employees to use respirators. Respirators shall be NIOSH-approved devices that effectively protect the wearers from inhalation of PM_{2.5} (such as N95 filtering facepiece respirators). Respirators shall be cleaned, stored, and maintained so that they do not present a health hazard to users. Employers shall use Appendix A to this section in lieu of Appendix D to section 5144 for training regarding voluntary use of respirators.~~

~~NOTE 1 for subsection (f)(3)(A). Respirator use is not required when the AQI is less than 301.~~

~~NOTE 2 for subsection (f)(3)(A). For voluntary use of filtering facepieces, such as N95 respirators, section 5144 does not require fit testing or medical evaluations. For voluntary use of respirators that are not filtering facepieces, such as those with an~~

¹ Appendix A is a placeholder. The content of required training will be spelled out in the appendix after discussions with stakeholders.

elastomeric facepiece, section ~~5144~~ does not require fit testing, but does require medical evaluations.

(B) Where the AQI is 301 or greater, respirators shall be used in accordance with section ~~5144~~. The assigned protection factor of respirators shall ensure that the concentration of PM_{2.5} inside the respirator corresponds to an AQI of 150 or less.