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INTRODUCTION

The Wildfire Smoke Protection Program provides guidance for employees working outdoors who are affected directly or indirectly by wildfire smoke. The program is intended to comply with Cal-OSHA 5141.1

The program covers outdoor operations of employees in California only during wildfire events. For the purposes of this program, a wildfire event is defined as an uncontrolled fire that involves brush, crops, forests and other vegetation or adjacent developed areas, and results in potentially harmful air quality.

To measure air quality, an Air Quality Index (AQI) was developed to translate data collected from air pollutant monitoring stations into a scale. The AQI is a number that ranges from 0 to 500 that indicates how clean or polluted the air is, and what associated health effects might be of concern to diverse individuals within a population.

When a wildfire event occurs and the AQI is 150 or greater, with the particle mass (PM) 2.5, elements of this program should be implemented.

This program does not cover:

- Employees who normally work or have the capacity to work indoors or in vehicles that are properly secured with filtered air systems (i.e. closed windows, doors, etc.).
- Employees who work less than 1 hour total outdoors for their work shift.

RESPONSIBILITIES

Studio Production Safety Specialist

The Studio Production Safety Specialist will introduce this Program to production, including any key department heads (construction, special effects, locations, etc.), and will explain best practices for implementation. In some cases the Studio may designate an alternate safety professional to assist production. Responsibilities include:

- Providing an up-to-date written Program to production.
- Working jointly with affected departments, as needed, in establishing reasonable guidelines to protect employees from wildfire smoke.
- Monitoring the program as needed and providing advice on specific program concerns.
- Provide resources to obtain N95 respirators for employee use when performing necessary outdoor work when the AQI is greater than 150.
- Making training resources and guidance regarding the safe use of issued N95 respirators.

Department Heads/Supervisors (Management/Department Heads)

Management will oversee and coordinate the responsibilities of the Wildfire Smoke Program. Responsibilities include:

- Monitor relevant wildfire events.
- Monitor employee work tasks outdoors in observation of the wildfire event and its effect on the local AQI.
- Modify/relocate/limit outdoor work when the AQI is greater than 150.

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- Ensure affected employees are trained in the standard.
- Retain training documentation.

Employees

Employee responsibilities include:

- Reporting any adverse effects or symptoms of wildfire smoke exposure to their department head/supervisor or set medic (if available).
- If required, wear the provided N95 respirator to work outdoors during a relevant wildfire event.
- Follow the respirator manufacturer's instructions, especially donning and doffing procedures and limitations of use.

IMPLEMENTATION

Determine Air Quality Index (AQI)

Air pollution is a complex mixture of gases and small particles suspended in the air. The different health effects of air pollution are dependent on how much of the pollutant is in the air, how long a person is exposed, as well as the person's health conditions, age, and genetic background. The Air Quality Index (AQI) was developed to help translate data collected from air pollutant monitoring stations into a scale. The AQI is a number that ranges from 0 to 500 that indicates how clean or polluted the air is.

- In the instance of a wildfire event, the Air Quality Index for the target area zip code should be checked. This can be done using the EPA Website AIRNow at <https://airnow.gov>. Navigate to "AQI – Pollutant Details" for the appropriate value (see Appendix A).

NOTE: AIRNow has an App for iOS and Android. In addition, the South Coast Air Quality Management District (SCAQMD) has an App for Los Angeles and Orange County readings.

- Department Heads/Supervisors (or a designee of the production) should monitor the site at least *once an hour*. Depending on severity and employee proximity to the wildfire event, monitoring may be more frequent.
- If the value observed for PM 2.5 is 150 or below, no action is required (*Note: Personal health and comfort issues may be addressed at the discretion of the management*).
- If the value observed for PM 2.5 is at least 151, Production should proceed with implementation of exposure controls. Department Heads/Supervisors or a designee should continue monitoring the AQI for the duration of employees' shifts.

Air Quality Index (AQI) Categories for PM2.5	Levels of Health Concern
0 to 50	Good
51 to 100	Moderate
101 to 150	Unhealthy for Sensitive Groups
151 to 200	Unhealthy
201 to 300	Very Unhealthy
301 to 500	Hazardous

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Implement Exposure Controls (AQI Above 150)

Outdoor Work

Where possible, management should limit employee outdoor work during the duration of the wildfire event and relative AQI value. Some examples include but are not exclusive to: relocating indoors and postponing work until conditions improve.

Respirators (N95)

Employees whose work is predominantly performed outdoors and not compatible to other exposure controls should be issued an N95 respirator, also known as a filtering facepiece respirator. The N95 is designed to protect against particulate matter such as dust, fumes, mists, aerosols, and smoke.

- Respirators may be obtained from most safety supply vendors. Contact your Production Safety Specialist for assistance. Basic information and instruction must also be provided to crew members when providing a respirator (see Appendix B).

NOTE: Respirators provided within the limits of this program are not covered by the requirements of the Respirator Protection (Cal-OSHA Title 8 5144).

TRAINING

Employees covered by the program will receive basic training (Appendix B) which includes:

- Health effects of wildfire smoke.
- The right to medical treatment from wildfire smoke exposure.
- How to obtain the Air Quality Index (AQI).
- N95 respirator use and limitation.

RECORDKEEPING

Training records, including Appendix B, will be maintained by management.

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(September 2019)

Appendix A

Local Air Quality Conditions

Zip Code: Go State: Go

Current AQI (Combined PM and O₃)
Friday, October 25, 2019 4:00 PM EDT

Fires: Current Conditions

[Click to see map](#)
[Wildfire Guide and Factsheets](#)

Enter Zip Code for work location

Air Quality Basics

[Air Quality Index](#) | [Ozone](#) | [Particle Pollution](#) | [Smoke from fires](#) | [What You Can Do](#)

Health

Learning Center

Local Air Quality Conditions

Zip Code: Go State: Go

Current AQI (Combined PM and O₃)
Friday, October 25, 2019 1:00 PM PDT

Current Conditions

Air Quality Index (AQI)
Observed at 13:00 PDT

40 Good

AQI - Pollutant Details

Pollutant	Value	Category
Ozone	40	Good
Particles (PM _{2.5})	31	Good

Air Quality Forecast

Today		Tomorrow	
Air Quality Index (AQI)	45	Air Quality Index (AQI)	77
Health Message: None	Good	Health Message: Unusually sensitive people should consider reducing prolonged or heavy exertion outdoors.	Moderate

AQI - Pollutant Details

Pollutant	Value	Category
Carbon Monoxide	9	Good
Carbon Monoxide	6	Good

Legend: Good, Moderate, USG, Unhealthy, Very Unhealthy, Hazardous, Action Day

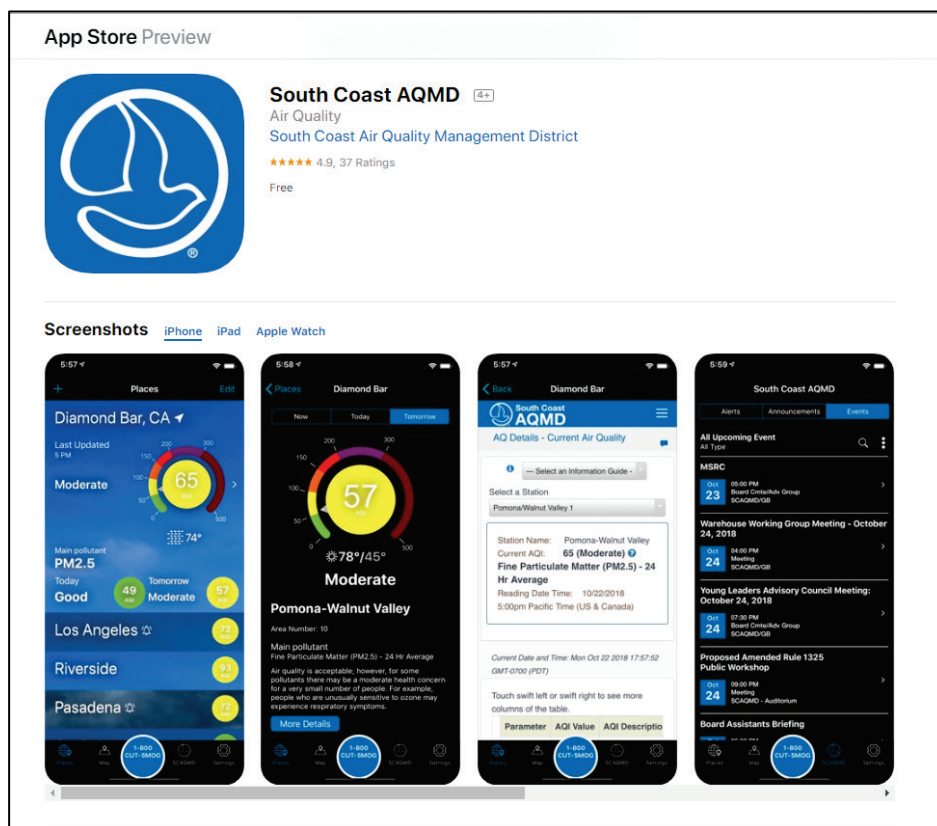
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Appendix A



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Protection from Wildfire Smoke Information to Be Provided to Employees – APPENDIX B

(a) The health effects of wildfire smoke.

Although there are many hazardous chemicals in wildfire smoke, the main harmful pollutant for people who are not very close to the fire is "particulate matter," the tiny particles suspended in the air. Particulate matter can irritate the lungs and cause persistent coughing, phlegm, wheezing, or difficulty breathing. Particulate matter can also cause more serious problems, such as reduced lung function, bronchitis, worsening of asthma, heart failure, and early death. People over 65 and people who already have heart and lung problems are the most likely to suffer from serious health effects. The smallest -and usually the most harmful -particulate matter is called PM2.5 because it has a diameter of 2.5 micrometers or smaller.

(b) The right to obtain medical treatment without fear of reprisal.

Employers shall allow employees who show signs of injury or illness due to wildfire smoke exposure to seek medical treatment, and may not punish affected employees for seeking such treatment. Employers shall also have effective provisions made in advance for prompt medical treatment of employees in the event of serious injury or illness caused by wildfire smoke exposure.

(c) How employees can obtain the current Air Quality Index (AQI) for PM2.5.

Various government agencies monitor the air at locations throughout California and report the current AQI for those places. The AQI is a measurement of how polluted the air is. An AQI over 100 is unhealthy for sensitive people and an AQI over 150 is unhealthy for everyone. Although there are AQIs for several pollutants, Title 8, section 5141.1 about wildfire smoke only uses the AQI for PM2.5. The easiest way to find the current and forecasted AQI for PM2.5 is to go to www.AirNow.gov and enter the zip code of the location where you will be working. The current AQI is also available from the U.S. Forest Service at <https://tools.airfire.org/> or a local air district, which can be located at www.arb.ca.gov/capcoa/dismap.htm. Employees who do not have access to the internet can contact their employer for the current AQI. The EPA website www.enviroflash.info can transmit daily and forecasted AQIs by text or email for particular cities or zip codes.

(d) The requirements in Title 8, section 5141.1 about wildfire smoke.

If employees may be exposed to wildfire smoke, then the employer is required to find out the current AQI applicable to the worksite. If the current AQI for PM2.5 is 151 or more, the employer is required to:

- (1) Check the current AQI before and periodically during each shift.
- (2) Provide training to employees.
- (3) Lower employee exposures.
- (4) Provide respirators and encourage their use.

(e) The employer's two-way communication system.

Employers shall alert employees when the air quality is harmful and what protective measures are available to employees. Employers shall encourage employees to inform their employers if they notice the air quality is getting worse, or if they are suffering from any symptoms due to the air quality, without fear of reprisal. The employer's communication system is: *verbal crew notifications*.

(f) The employer's methods to protect employees from wildfire smoke.

Employers shall take action to protect employees from PM2.5 when the current AQI for PM2.5 is 151 or greater. Examples of protective methods include:

- (1) Locating work in enclosed structures or vehicles where the air is filtered.
- (2) Changing procedures such as moving workers to a place with a lower current AQI for PM2.5.
- (3) Reducing work time in areas with unfiltered air.
- (4) Increasing rest time and frequency, and providing a rest area with filtered air.
- (5) Reducing the physical intensity of the work to help lower the breathing and heart rates.

The employer's control system at this worksite is: *determined on a case by case basis due to the variability of production*.

(g) The importance, limitations, and benefits of using a respirator when exposed to wildfire smoke.

Respirators can be an effective way to protect employee health by reducing exposure to wildfire smoke, when they are properly selected and worn. Respirator use can be beneficial even when the AQI for PM2.5 is less than 151, to provide additional protection. When the current AQI for PM2.5 is 151 or greater, employers shall provide their workers with proper respirators for voluntary use. If the current AQI is greater than 500, respirator use is required. A respirator should be used properly and kept clean.

The following precautions shall be taken:

- (1) Employers shall select respirators certified for protection against the specific air contaminants at the workplace. NIOSH, the National Institute for Occupational Safety and Health of the U.S. Center for Disease Control and Prevention certifies respirators. A label or statement of certification should appear on the respirator or respirator packaging. It will list what the respirator is designed for (particulates, for example).

Surgical masks or items worn over the nose and mouth such as scarves, T-shirts, and bandannas will not provide protection against wildfire smoke. An N95 filtering facepiece respirator, shown within this document, is the minimum level of protection for wildfire smoke.

- (2) Read and follow the manufacturer's instructions on the respirator's use, maintenance, cleaning and care, along with any warnings regarding the respirator's limitations. The manufacturer's instructions for medical evaluations, fit testing, and shaving should also be followed, although doing so is not required by Title 8, section 5141.1 for voluntary use of filtering facepiece respirators.

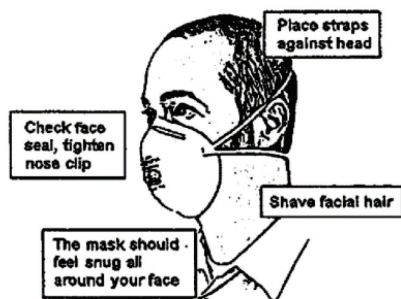
- (3) Do not wear respirators in areas where the air contains contaminants for which the respirator is not designed. A respirator designed to filter particles will not protect employees against gases or vapors, and it will not supply oxygen.

- (4) Employees should keep track of their respirator so that they do not mistakenly use someone else's respirator.

- (5) Employees who have a heart or lung problem should ask their doctor before using a respirator.

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

To get the most protection from a respirator, there must be a tight seal around the face. A respirator will provide much less protection if facial hair interferes with the seal. Loose-fitting powered air purifying respirators may be worn by people with facial hair since they do not have seals that are affected by facial hair. The proper way to put on a respirator depends on the type and model of the respirator. For those who use an N95 or other filtering facepiece respirator mask that is made of filter material:



- (1) Place the mask over the nose and under the chin, with one strap placed below the ears and one strap above.
- (2) Pinch the metal part (if there is one) of the respirator over the top of the nose so it fits securely.

For a respirator that relies on a tight seal to the face, check how well it seals to the face by following the manufacturer's instructions for user seal checks. Adjust the respirator if air leaks between the seal and the face. The more air leaks under the seal, the less protection the user receives.

Respirator filters should be replaced if they get damaged, deformed, dirty, or difficult to breathe through. Filtering facepiece respirators are disposable respirators that cannot be cleaned or disinfected. A best practice is to replace filtering facepiece respirators at the beginning of each shift.

If you have symptoms such as difficulty breathing, dizziness, or nausea, go to an area with cleaner air, take off the respirator, and get medical help.

Appendix B to Section 5141.1. Protection from Wildfire Smoke Information to Be Provided to Employees

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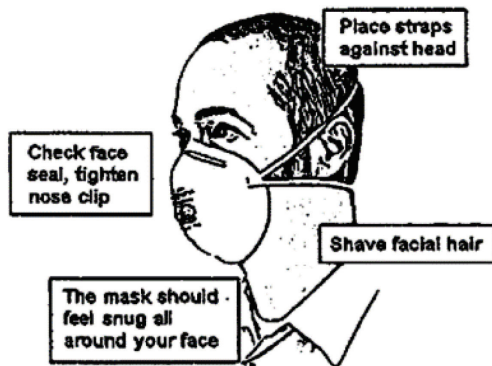
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