Chapter 296-820 WAC
Wildfire Smoke

This book contains rules for Wildfire Smoke, as adopted under the Washington Industrial Safety and Health Act of 1973 (Chapter 49.17 RCW).

The rules in this book are effective May 2025. A brief promulgation history, set within brackets at the end of this chapter, gives statutory authority, administrative order of promulgation, and date of adoption of filing.

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Chapter 296-820 WAC

Wildfire Smoke

Effective May 16, 2025

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WAC 296-820-805 Purpose and scope.

WAC 296-820-805 through 296-820-860 applies to all workplaces, including those with agricultural activity according to **RCW 49.17.020**, with the exception of the following:

(1) Enclosed buildings or structures in which the employer ensures that windows, doors, bays, and other exterior openings are kept closed, except when it is necessary to briefly open doors to enter and exit.

(2) Enclosed vehicles in which the air is filtered by a properly maintained cabin air filter and the employer ensures that windows, doors, and other openings are kept closed except when it is necessary to briefly open doors to enter or exit. Buses, light rail, and other enclosed vehicles used for transit systems where doors are frequently opened to board and deboard passengers are not included under this exemption.

(3) Work within the scope of **chapter 296-305 WAC, *Safety standards for firefighters***.

(4) Workers performing prescribed burns.

WAC 296-820-810 Definitions.

(1) **Air Quality Index (AQI)**. A unitless index used by the U.S. Environmental Protection Agency (EPA) to communicate air quality for several pollutants, including $PM_{2.5}$. References to the AQI used throughout this chapter means the "NowCast AQI for $PM_{2.5}$."

(2) **Current $PM_{2.5}$**. The concentration of $PM_{2.5}$ for the most current hour available, calculated using an hourly average of $PM_{2.5}$ data.

Note: The NowCast AQI as provided by the Washington state department of ecology, local clean air agency, or U.S. EPA is also acceptable to approximate current $PM_{2.5}$.

(3) **Emergency response**. Rescue, evacuation, utilities, communications, transportation, and medical operations; when such operations are directly aiding firefighting; protecting public health and safety; or actively protecting, restoring, or maintaining the safe and reliable operation of critical infrastructure at risk.

(4) **High-efficiency particulate air (HEPA) filter**. A filter capable of trapping and retaining at least 99.97 percent of all monodispersed particles of 0.3 micrometers mean aerodynamic diameter or larger.

(5) **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.

(6) **NowCast**. The method used by the EPA and the Washington state department of ecology to approximate the air quality for the most current hour available by using a calculation that involves multiple hours of past data. The NowCast uses longer averages during periods of stable air quality and shorter averages when air quality is changing rapidly, such as during a wildfire. The NowCast is generally updated every hour.

(7) **$PM_{2.5}$**. Solid particles and liquid droplets suspended in air, known as particulate matter, with an aerodynamic diameter of 2.5 micrometers or smaller. Measured in micrograms per cubic meter ($\mu g/m^3$).

(8) **Wildfire smoke**. $PM_{2.5}$ which includes emissions from planned and unplanned fires in wildlands, wildland urban interface, agricultural operations, or adjacent developed areas. Wildfire smoke contains a complex mixture of gases and particulates. Fine particulates such as $PM_{2.5}$ are the primary pollutant of public and occupational health concern in wildfire smoke.

(9) **Wildlands**. Sparsely populated geographical areas covered primarily by grass, brush, trees, crops, or combination thereof.

WAC 296-820-815 Identification of harmful exposures.

The employer must determine the current $PM_{2.5}$ for worksites covered by WAC 296-820-805 through 296-820-860 periodically as needed. The employer may use any of the following methods to determine employee exposures such that they are able to comply with the requirements in WAC 296-820-805 through 296-820-860:

(1) Check $PM_{2.5}$ forecasts and the current $PM_{2.5}$ from any of the following:

(a) **Washington department of ecology website**;
(b) **Air Quality WA mobile app**;
(c) **Washington smoke information website**;
(d) **U.S. EPA Fire and Smoke Map**;
(e) **U.S. EPA AirNow website**;
(f) **U.S. EPA AirNow mobile app**;
(g) **U.S. Forest Service AirFire website**; or

(h) **Local clean air agency website**.

(2) Obtain $PM_{2.5}$ forecasts and the current $PM_{2.5}$ directly from the Washington state department of ecology, U.S. EPA, U.S. EPA **EnviroFlash.info**, or local clean air agency by telephone, email, text, or other effective method; or

(3) Measure current $PM_{2.5}$ levels at the work location in accordance with WAC 296-820-845.

The following table indicates the NowCast AQI values that may be used from the Washington state department of ecology, local clean air agency, or EPA to comply with this section:

Current $PM_{2.5}$	NowCast Air Quality Index For $PM_{2.5}$ (AQI)
20.5 µg/m^3	72
35.5 µg/m^3	101
250.5 µg/m^3	351
500.4 µg/m^3	849
555 µg/m^3	957

Notes:

- The current $PM_{2.5}$ is updated hourly.
- Employers are not responsible for tracking employee exposures outside of working hours.

WAC 296-820-820 Hazard communication.

For any worksite covered by WAC 296-820-805 through 296-820-860, the employer must establish and implement a system for communicating wildfire smoke hazards in a form readily understandable by all affected employees, including provisions designed to encourage employees to inform the employer of wildfire smoke hazards at the worksite without fear of reprisal.

(1) The hazard communication system must include procedures for:

(a) Informing employees when the current $PM_{2.5}$ as identified in WAC 296-820-815, exceeds the following thresholds, and the protective measures available to employees to reduce their wildfire smoke exposures:

(i) When at least two consecutive current $PM_{2.5}$ readings are 20.5 µg/m^3 (AQI 72) or more;

(ii) 35.5 µg/m^3 (AQI 101) or more;

(iii) 250.5 μg/m^3 (AQI 351) or more;
(iv) 500.4 μg/m^3 (AQI 849) or more; and
(v) 555 μg/m^3 (AQI 957) or more.

(b) Enabling and encouraging employees to inform the employer of:

(i) Worsening air quality;

(ii) Availability issues of appropriate exposure control measures and respiratory protection required by WAC 296-820-805 through 296-820-860; and

(iii) Any symptoms that may potentially be related to wildfire smoke exposure including, but not limited to:

(A) Respiratory:
- Cough;
- Difficulty breathing;
- Wheezing;
- Shortness of breath, particularly when accompanied by greater use of accessory muscles;
- Asthma attack;
- Runny nose;
- Sore throat;
- Sinus pain or pressure; or
- Phlegm.

(B) Cardiovascular:
- Chest pain or discomfort;
- Fast or irregular heartbeat;
- Feeling weak, light-headed, faint, or dizzy; or
- Pain or discomfort in the jaw, neck, or back.

(C) Symptoms concerning for a stroke:
- Sudden numbness or weakness in the face, arm, or leg, especially on one side of the body;
- Sudden confusion, trouble speaking, or difficulty understanding speech;
- Sudden trouble seeing in one or both eyes;
- Sudden trouble walking, dizziness, loss of balance, or lack of coordination; or

- Sudden severe headache with no known cause.

(D) Headache; scratchy or irritated eyes; fatigue or tiredness.

(2) A wildfire smoke response plan must be included in the written accident prevention program before work that exposes the worker to a current $PM_{2.5}$ concentration of 20.5 μg/m³ (AQI 72) or more. The wildfire smoke response plan must be tailored to the workplace and include at least the following elements:

(a) The health effects and symptoms of wildfire smoke exposure;
(b) The importance of informing the employer when the employee is experiencing symptoms of wildfire smoke exposure;
(c) The right to obtain medical attention without fear of reprisal;
(d) The requirements of WAC 296-820-805 through 296-820-860;
(e) The employer's methods of determining the current $PM_{2.5}$ under WAC 296-820-815;
(f) How employees can obtain the current $PM_{2.5}$, and the employer's methods to communicate the current $PM_{2.5}$;
(g) The employer's response plan for wildfire smoke, including methods to protect employees from wildfire smoke, and the exposure symptom response procedures;
(h) The importance, benefits, and limitations of using a properly fitted respirator when exposed to wildfire smoke;
(i) The risks and limitations of using an unfitted respirator, and the risks of wearing a respirator without a medical evaluation; and
(j) How to properly put on, use, and maintain the respirators provided by the employer.

WAC 296-820-825 Information and training.

The employer must provide all workers with information and training regarding wildfire smoke before work that exposes the worker to a current $PM_{2.5}$ concentration of 20.5 μg/m³ (AQI 72) or more. Training must be provided at least annually thereafter.

(1) Information and training must be provided in a manner and language readily understood by the workers.

(2) At a minimum, the training must include the following information found in WAC 296-820-850, *Appendix A*:

(a) The health effects and symptoms of wildfire smoke exposure;

(b) The importance of informing the employer when the employee is experiencing symptoms of wildfire smoke exposure;
(c) The right to obtain medical attention without fear of reprisal;
(d) The requirements of WAC 296-820-805 through 296-820-860;
(e) The employer's methods of determining the current $PM_{2.5}$ under WAC 296-820-815;
(f) How employees can obtain the current $PM_{2.5}$, and the employer's methods to communicate the current $PM_{2.5}$;
(g) The employer's response plan for wildfire smoke, including methods to protect employees from wildfire smoke, and the exposure symptom response procedures;
(h) The importance, benefits, and limitations of using a properly fitted respirator when exposed to wildfire smoke;
(i) The risks and limitations of using an unfitted respirator, and the risks of wearing a respirator without a medical evaluation; and
(j) How to properly put on, use, and maintain the respirators provided by the employer.

(3) Supervisor training.

Prior to supervising employees performing work that exposes the worker to current $PM_{2.5}$ levels that are 20.5 $\mu g/m^3$ (AQI 72) or more, supervisors must have training on the information in subsection (2) of this section, and the following topics:

(a) The procedures the supervisor must follow to implement the applicable provisions of WAC 296-820-805 through 296-820-860;
(b) The procedures the supervisor must follow if an employee exhibits symptoms of wildfire smoke exposure; and
(c) Procedures for moving or transporting employees to an emergency medical service provider, or other appropriate level of care, if necessary.

WAC 296-820-830 Exposure symptom response.

(1) Employers must allow employees who display any symptoms that may potentially be related to wildfire smoke exposure to seek medical attention or follow medical advice they have been given, and must not retaliate against affected employees for seeking such medical attention, or following medical advice.

(2) Employers must monitor employees displaying symptoms of wildfire smoke exposure to determine whether medical attention is necessary.

(a) Symptoms requiring immediate medical attention include, but are not limited to:

- Wheezing, difficulty breathing, or shortness of breath, particularly when accompanied by greater use of accessory muscles;
- Asthma attacks;
- Chest pain or symptoms concerning for heart attack;
- Nausea or vomiting;
- Sudden numbness or weakness in the face, arm, or leg, especially on one side of the body;
- Sudden confusion, trouble speaking, or difficulty understanding speech;
- Sudden trouble seeing in one or both eyes;
- Sudden trouble walking, dizziness, loss of balance, or lack of coordination; or
- Sudden severe headache with no known cause.

(b) Except as required under subsection (3) of this section, while medical attention is being arranged or where medical attention is not necessary, employers must take steps to reduce or eliminate continued exposure to wildfire smoke as appropriate to employee symptoms; intensity of exposure; and exposure controls in place, including respiratory protections in place.

(3) Where the current $PM_{2.5}$ is 250.5 $\mu g/m^3$ (AQI 351) or more, employers must ensure workers experiencing symptoms requiring immediate medical attention, including those described under subsection (2) of this section, be moved to a location that ensures sufficient clean air such as:

(a) A location where the current $PM_{2.5}$ is less than 20.5 $\mu g/m^3$; or
(b) An enclosed building, structure, or vehicle with HEPA filtration sufficient for the volume of the space.

(4) Employers must have effective provisions made in advance for prompt medical attention of employees who display symptoms of wildfire smoke exposure.

WAC 296-820-835 Exposure controls.

(1) Where the current $PM_{2.5}$ is 20.5 μg/m^3 (AQI 72) or more, the employer is encouraged to implement exposure controls.

(2) Where the current $PM_{2.5}$ is 35.5 μg/m^3 (AQI 101) or more, the employer must implement effective exposure controls whenever feasible.

(3) Such controls include, but are not limited to:

- (a) Providing enclosed buildings, structures, or vehicles where the air is adequately filtered;
- (b) Providing portable HEPA filters in enclosed areas;
- (c) Relocating work to a location with a lower ambient air concentration of $PM_{2.5}$;
- (d) Changing work schedules to a time with a lower ambient air concentration of $PM_{2.5}$;
- (e) Avoiding or reducing work that creates additional exposures to dust, fumes, or smoke;
- (f) Reducing work intensity; and
- (g) Providing additional rest periods.

(4) WAC 296-820-835 is not required during emergency response.

Note: Exposure controls may be implemented to the extent that the work is no longer covered by the scope of this rule as listed in WAC 296-820-805 (1) or (2).

WAC 296-820-840 Respiratory protection.

(1) Where the current $PM_{2.5}$ is 20.5 μg/m3 to 35.4 μg/m3 (AQI 72 to 100), the employer is encouraged to provide N95 filtering-facepiece respirators at no cost to employees upon request. Employees may provide and wear their own respiratory protection as long as voluntary use of these respirators does not introduce hazards to the work environment.

(2) Where the current $PM_{2.5}$ is 35.5 μg/m^3 to 250.4 μg/m^3 (AQI 101 to 350), the employer must provide N95 filtering-facepiece respirators at no cost to all exposed employees, and must encourage respirator use. Employers must provide respirators by either of the following methods:

- (a) Directly distribute to each exposed employee; or

(b) Maintain a sufficient supply for all exposed employees at each work location where exposure occurs. Such respirator supply availability and locations must be made known, and be readily accessible, to all exposed employees in a manner that does not restrict or hinder employee access to obtain and replace respirators when needed.

(3) Where the current $PM_{2.5}$ is 250.5 µg/m³ to 500.3 µg/m³ (AQI 351 to 848), the employer must distribute N95 filtering-facepiece respirators directly to each exposed employee, and must encourage respirator use.

(4) Required use of respiratory protection.

(a) Where the current $PM_{2.5}$ is 500.4 µg/m³ to 554.9 µg/m³ (AQI 849 to 957), employees must be enrolled in a complete respiratory protection program in accordance with **chapter 296-842 WAC, *Respirators***, except as provided in (b) of this subsection. The employer must provide and require to be worn one of the following respirators:

(i) N95 filtering-facepiece respirator;
(ii) Half-facepiece air-purifying respirator equipped with P100 filters; or
(iii) Other respirators equipped with P100 filters, with an assigned protection factor of 10 or greater as listed in **WAC 296-842-13005 *Select and provide appropriate respirators***.

(b) This subsection does not apply to employees exposed to $PM_{2.5}$ for a total of 15 minutes or less during a 24-hour period.

(5) Where the current $PM_{2.5}$ is 555 µg/m³ (AQI 957) or more, employees must be enrolled in a complete respiratory protection program in accordance with **chapter 296-842 WAC, *Respirators***. The employer must provide and require to be worn one of the following respirators equipped with P100 filters:

(a) Loose-fitting powered air-purifying respirator;
(b) Full-facepiece air-purifying respirator;
(c) Full-facepiece powered air-purifying respirator; or
(d) Other respirators with an assigned protection factor of 25 or more as listed in **WAC 296-842-13005** *Select and provide appropriate respirators*, such that the $PM_{2.5}$ levels inside the respirator are less than 55.5 µg/m³ (AQI 151).

(6) Respirators must be NIOSH-approved devices that effectively protect the wearers from inhalation of wildfire smoke.

(7) The employer must use WAC 296-820-825 in lieu of the advisory information in Table 2 of WAC **296-842-11005** ***Make sure voluntary use of respirators is safe***, for training regarding voluntary use of respirators for wildfire smoke.

(8) Respirators must be cleaned, stored, maintained, and replaced so that they are in good working order, and do not present a health hazard to users. Replace or repair any respirator that is not functioning properly, and do not permit their use. Filtering-facepiece respirators must not be cleaned, repaired, or shared. Dispose of and replace any filtering-facepiece respirator that is dirty, damaged, or difficult to breathe through. Elastomeric respirators must be properly cleaned and disinfected before being worn by another employee.

Notes:

- Respirator use is not considered voluntary when an employer requires respirators to be used. A complete respiratory protection program in accordance with **chapter 296-842** WAC, *Respirators*, is required if the employer chooses to require respirator use.
- For voluntary use of filtering-facepiece respirators, such as N95 respirators, some of the requirements of **chapter 296-842** WAC, *Respirators*, such as fit-testing and medical evaluations, do not apply.
- Elastomeric respirators equipped with P100 filters may be used in place of N95 filtering-facepiece respirators. If elastomeric respirators are used voluntarily, additional requirements apply from **chapter 296-842** WAC, *Respirators*, such as medical evaluations and establishing a respiratory protection program.
- For voluntary or required use of loose-fitting powered air-purifying respirators, some of the requirements of **chapter 296-842** WAC, *Respirators*, do not apply, such as fit-testing and requiring workers to be clean-shaven.
- During emergency response, required use of respirators must be implemented to the extent feasible.

WAC 296-820-845 Measuring $PM_{2.5}$ levels at the worksite.

(1) An employer may use a direct-reading particulate sensor to identify harmful exposures as required by WAC 296-820-815, if the employer can demonstrate that it has complied with this section (WAC 296-820-845) and selected a direct-reading particulate sensor that:

(a) Does not underestimate employee exposures to wildfire smoke; or

(b) May underestimate wildfire smoke exposures, but the employer has obtained information on the possible error of the sensor from the manufacturer or other published literature and has accounted for the error of the sensor when determining exposures to $PM_{2.5}$ to ensure that employee exposure levels not be underestimated.

(2) The sensor must be designed and manufactured to measure the concentration of airborne particle sizes ranging from an aerodynamic diameter of 0.3 micrometers or less, up to and including 2.5 micrometers (≤0.3 μm to 2.5 μm). The employer may use a sensor that measures a particle size range beyond these limits, if the employer treats the results as the $PM_{2.5}$ levels.

(3) The employer must:

(a) Select a sensor with a field R-squared (R^2) value greater than 0.7 when measuring one-hour average $PM_{2.5}$; or

(b) If the selected sensor's field R^2 is unknown or is 0.7 or less, the employer may use the sensor alongside other data sources listed in WAC 296-820-815, relying upon whichever value is higher.

(4) The employer must ensure that the sensor it selects be calibrated, maintained, and used, including the use of necessary accessories, in accordance with the manufacturer's instructions for accurately measuring one-hour average $PM_{2.5}$ concentrations.

(5) The person supervising, directing, evaluating, or operating direct-reading particulate sensors must have the training or experience necessary to apply this section and to ensure the correct use of the sensor and the interpretation of the results, so that exposures are not underestimated.

WAC 296-820-850 Appendix A: Protection from wildfire smoke information and training (mandatory).

(1) **The health effects and symptoms of wildfire smoke:**

(a) 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 is a health risk whether you are exposed over a short period of time or a long period of time. The EPA has determined that particulate matter does cause, or likely causes cardiovascular disease, respiratory disease, cancer, and harm to the nervous system. In addition, particulate matter can irritate the eyes and lungs, causing eye irritation, phlegm, and persistent coughing. It can also cause difficulty breathing, reduced lung function, wheezing, bronchitis, worsening of asthma, heart failure, and early death.

(b) Wildfire smoke can harm your health even if you cannot see or smell the smoke or do not feel any symptoms. Even healthy people can be harmed by wildfire smoke. The wildfire smoke rule is designed to limit the harm from wildfire smoke, and it is important to consider taking action to reduce your exposure to smoke whenever the rule's protections are in effect, whether or not you have symptoms. Watch for symptoms as an additional indication to reduce exposure to smoke, and reduce work intensity.

This appendix reviews many wildfire smoke symptoms, but not every possible symptom may be mentioned, and it is a good idea to talk to your doctor or other health care provider before being exposed to wildfire smoke to have a plan for protecting yourself, including what symptoms to watch out for and how to reduce your exposure. This is especially important if you have any medical conditions; are pregnant; or have questions about the health effects or symptoms of wildfire smoke exposure.

(c) The wildfire smoke rule has additional requirements in WAC 296-820-830 when workers experience symptoms requiring immediate medical attention. When the current $PM_{2.5}$ is 250.5 $\mu g/m^3$ or more, your employer must ensure workers experiencing such symptoms be moved to a location that ensures sufficient clean air as described in WAC 296-820-830(3). Symptoms requiring immediate medical attention include, but are not limited to:

- Symptoms concerning for a heart attack, such as:
  - Chest pain or discomfort;
  - Feeling weak, light-headed, faint, or dizzy;
  - Pain or discomfort in the jaw, neck, or back;
  - Pain or discomfort in one or both arms or shoulders;
  - Shortness of breath, especially if accompanied by chest discomfort;
- Symptoms concerning for a stroke, such as:
  - Sudden numbness or weakness in the face, arm, or leg, especially on one side of the body;
  - Sudden confusion, trouble speaking, or difficulty understanding speech;

  - Sudden trouble seeing in one or both eyes;
  - Sudden trouble walking, dizziness, loss of balance, or lack of coordination;
  - Sudden severe headache with no known cause;

- Wheezing, difficulty breathing, or shortness of breath, particularly when accompanied by greater use of accessory muscles;

- Asthma attacks; or

- Nausea or vomiting.

(d) In addition to symptoms that under this rule require immediate medical attention, wildfire smoke can also cause other symptoms, many of which are described below. Even if a symptom is not mentioned here, you have the right under the wildfire smoke rule to seek medical attention or follow medical advice if you develop any symptoms you think may potentially be related to wildfire smoke exposure, regardless of their severity.

Regardless of whether a symptom is serious enough to require immediate medical attention, employers covered by the wildfire smoke rule are required by WAC 296-820-830(4) to have effective provisions made in advance for prompt medical attention of employees displaying symptoms of wildfire smoke exposure.

If you develop a symptom, you should follow the advice of your doctor or health care provider, and seek medical attention if necessary. Your employer must not retaliate against you for seeking medical attention or following medical advice you have been given.

In addition to the symptoms requiring immediate medical attention according to WAC 296-820-830, all of the following symptoms are also potentially related to wildfire smoke exposure. They may also require medical attention:

- Respiratory:
  - Cough;
  - Runny or irritated nose;
  - Sore throat;
  - Sinus pain or pressure;

  - Phlegm.

- Fast or irregular heartbeat;
- Headache;
- Scratchy or irritated eyes; or
- Fatigue or tiredness.

(e) Developing wildfire smoke symptoms, even mild ones, indicates you are being overexposed to the smoke and should report your symptoms to your employer. In response, according to WAC 296-820-830 your employer must permit you to follow medical advice you have been given, seek medical attention if necessary, and must take appropriate steps to reduce your exposure. This may include providing you with access to clean air according to WAC 296-820-830(3) (your employer must ensure access to clean air when the current $PM_{2.5}$ is greater than 250.5 $\mu g/m^3$); helping you use respiratory protection; or taking other steps to control your exposure.

(f) Sensitive groups:

L&I and the Washington state department of health consider all outdoor workers as a sensitive group at higher risk of experiencing adverse health effects from wildfire smoke exposure.[1]

Sensitive groups include people who are at higher risk of experiencing adverse health effects as a result of exposure to wildfire smoke, including those with preexisting health conditions; those with increased duration of exposure; and those whose work results in an increased breathing rate, including outdoor workers.[1] Although everyone is impacted by wildfire smoke exposure, sensitive groups are among those most likely to experience health problems from exposure to wildfire smoke.

Examples of sensitive groups include:

- Outdoor workers;
- People with lung diseases such as asthma or chronic obstructive pulmonary disease (COPD), including bronchitis and emphysema, and those who smoke;

- People with respiratory infections, such as pneumonia, acute bronchitis, bronchiolitis, colds, or flu; or those with, or recovering from COVID-19;
- People with existing heart or circulatory problems, such as irregular heartbeat, congestive heart failure, coronary artery disease, angina, and those who have had a heart attack or stroke;
- Children under 18 years old, and adults over age 65;
- People who are pregnant;
- People with diabetes;
- People with other medical or health conditions that can be worsened by exposure to wildfire smoke as determined by a physician;
- Tribal and indigenous people;
- People with low income.

[1] Washington Department of Health. April 2022, accessed April 2023. Washington Air Quality Guide for Particle Pollution: **https://doh.wa.gov/sites/default/files/legacy/Documents/4300//waqa%20infographic_English.pdf?uid=64384c71c8715**

(2) **The importance of informing the employer when the employee is experiencing symptoms of wildfire smoke exposure:**

Watch for symptoms of wildfire smoke exposure as a sign to reduce exposure. The particulate matter in wildfire smoke can harm your health, even at lower levels of exposure.

It is important to notify your employer when you are experiencing symptoms of wildfire smoke exposure so your employer can respond appropriately.

Your employer will have provisions made in advance for prompt medical attention for employees who are experiencing symptoms of wildfire smoke exposure.

Do not ignore your symptoms. Wildfire smoke can be hazardous even when you cannot see it or smell it. Your employer cannot retaliate against you for reporting symptoms, for seeking medical attention, or for following medical advice you have been given. This is true whenever the wildfire smoke rule's protections are in effect.

Wildfire smoke is a serious work-related hazard for outdoor workers, and you have the right to file a workers' compensation claim to have your symptoms evaluated. You may file a workers' compensation claim whether or not you have

personal health insurance. Your employer cannot prevent you from or retaliate against you for filing a workers' compensation claim.

In most cases, L&I will pay for your initial medical evaluation, even if your claim is denied. If your claim is allowed, the workers' compensation system will cover medical bills directly related to your condition and partial wage replacement benefits if you cannot work.

When the current $PM_{2.5}$ is 250.5 µg/m^3 or more, your employer must ensure workers experiencing symptoms requiring immediate medical attention be moved to a location that ensures sufficient clean air as described in WAC 296-820-830(3).

(3) **The right to obtain medical attention without fear of reprisal:**

Employers must allow employees who show signs of injury or illness due to wildfire smoke exposure to seek medical attention or follow medical advice they have been given, and must not retaliate against affected employees for seeking such medical attention or following medical advice.

Employers must also have effective provisions made in advance for prompt medical attention of employees in the event of serious injury or illness caused by wildfire smoke exposure.

Additionally, when the current $PM_{2.5}$ is 250.5 µg/m^3 or more, employers must ensure workers experiencing symptoms requiring immediate medical attention be moved to a location that ensures sufficient clean air as described in WAC 296-820-830(3).

For more information on your workplace safety and health rights, discrimination protections, and filing a discrimination complaint, visit **www.Lni.wa.gov/WorkplaceDiscrimination**.

(4) **The requirements of WAC 296-820-805 through 296-820-860**:

The following table summarizes the key requirements of the rule. This is not an exhaustive list, and additional details are found in WAC 296-820-805 through 296-820-860.

Current $PM_{2.5}$	AQI	Requirements
0.0 – 20.4 µg/m^3	0 – 71	• Prepare a written wildfire smoke response plan.

Current $PM_{2.5}$	AQI	Requirements
		• Provide wildfire smoke training to employees. • Watch the $PM_{2.5}$ conditions and forecasts. • Prepare a two-way communication system. • Make provisions for prompt medical attention, and permit such medical attention without retaliation.
20.5 – 35.4 µg/m^3	72 – 100	All of the above and: • Notify employees of $PM_{2.5}$ conditions. • Ensure only trained employees work outdoors. • Consider implementing exposure controls. • Consider providing voluntary use respirators.
35.5 – 250.4 µg/m^3	101 – 350	All of the above and: • Implement exposure controls. • Make N95 respirators available for voluntary use.
250.5 – 500.3 µg/m^3	351 – 848	All of the above and: • Ensure workers experiencing symptoms requiring immediate medical attention be moved to a location that ensures sufficient clean air. • Directly distribute N95 respirators to employees for voluntary use.
500.4 – 554.9 µg/m^3	849 – 956	All of the above and: • Implement a complete required use respiratory protection program, including fit-testing, medical evaluations, requiring employees to be clean-shaven, and requiring the use of particulate respirators.
555 – µg/m^3	957 or more	All of the above and: • Require respirators with an assigned protection factor (APF) of 25 or more.

(5) **The employer's methods of determining the current $PM_{2.5}$ under WAC 296-820-815:**

The employer's methods of determining the current $PM_{2.5}$:

(6) **How employees can obtain the current $PM_{2.5}$, and the employer's methods to communicate the current $PM_{2.5}$:**

Various government agencies monitor the air quality at locations throughout Washington and provide information to the public on the current air quality. These monitoring sites measure several harmful pollutants, but the pollutant of particular concern for wildfire smoke is the current $PM_{2.5}$ which is reported as the hourly average of $PM_{2.5}$ in $\mu g/m^3$. Some of these sites also report the NowCast Air Quality Index (AQI). The NowCast AQI uses the air quality data of all the pollutants from these regulatory monitors and the NowCast averaging time to attempt to provide a general index of the overall air quality.

Although these monitoring stations may measure several pollutants, this chapter only uses the hourly average of $PM_{2.5}$. The NowCast AQI for $PM_{2.5}$ may also be used as an alternative.

One way to find the current and forecasted $PM_{2.5}$ is to go to **enviwa.ecology.wa.gov** and find the nearest monitor on the map, or **fire.airnow.gov** and enter the zip code of the location where you will be working. The current $PM_{2.5}$ is also available from the Air Quality WA mobile app, or the AirNow mobile app.

Employees who do not have access to the internet can contact their employer for the current $PM_{2.5}$. The U.S. EPA website **www.enviroflash.info** can transmit daily and forecasted air quality by email for your city or zip code.

While the requirements in this rule are based on the current $PM_{2.5}$, employers may choose to use the NowCast Air Quality Index (AQI) for $PM_{2.5}$ to comply with this rule. Because the current $PM_{2.5}$ is based on a one-hour average, and the NowCast AQI averages data over a longer time, it is normal for the two values to differ over short periods of time. Your employer will tell you whether they use the current one-hour average $PM_{2.5}$, or the NowCast AQI for $PM_{2.5}$. The following table indicates the NowCast AQI values that may be used from the Washington state department of ecology, local clean air agency, or EPA to approximate the current $PM_{2.5}$.

CURRENT $PM_{2.5}$	NOWCAST AIR QUALITY INDEX FOR $PM_{2.5}$ (AQI)
20.5 $\mu g/m^3$	72
35.5 $\mu g/m^3$	101

CURRENT $PM_{2.5}$	NOWCAST AIR QUALITY INDEX FOR $PM_{2.5}$ (AQI)
250.5 µg/m^3	351
500.4 µg/m^3	849
555 µg/m^3	957

Your employer will establish a two-way communication system to communicate changing wildfire smoke conditions to you, and allowing you to communicate information to your employer such as: Worsening air quality; availability issues of exposure control measures and respirators; and any symptoms of wildfire smoke exposure. Your employer cannot retaliate or discriminate against you for raising safety concerns, or reporting symptoms. The employer's communication system is:

(7) **The employer's response plan for wildfire smoke including methods to protect employees from wildfire smoke, and the exposure symptom response procedures:**

Your employer will provide training on the specific methods they will implement to protect you as part of their wildfire smoke response plan, and their procedures to respond when employees experience symptoms of wildfire smoke exposure.

The employer's methods to protect employees are:

The employer's exposure symptom response procedures are:

(8) **The importance, limitations, and benefits of using a properly fitted 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 current $PM_{2.5}$ is less than 35.5 $\mu g/m^3$.

Respirator use is not voluntary, and a complete respiratory protection program in accordance with chapter **296-842 WAC, *Respirators***, is required in any of the following situations:

- The employer chooses to require respirator use;
- A respiratory hazard, such as exposure to a substance over the permissible exposure limit (PEL) or hazardous exposure to an airborne biological hazard, is present.
- Work under the scope of this rule where the current $PM_{2.5}$ is 500.4 $\mu g/m^3$ (AQI 500) or higher.

If respirator use is required, you will be enrolled in a complete respiratory protection program which includes additional training, fit-testing, and medical evaluations.

To evaluate respiratory hazards in your workplace, see chapter **296-841 WAC, *Airborne contaminants***.

Take the following precautions to ensure the best possible protection when using N95 respirators voluntarily for protection from wildfire smoke:

(a) Employers must select respirators certified for protection against the specific air contaminants at the workplace. For $PM_{2.5}$, a National Institute for Occupational Safety and Health (NIOSH) certified respirator with at least an N95 particulate filter is required. A label or statement of certification should appear on the respirator or respirator packaging. KN95 masks, surgical masks, or other items worn over the nose and mouth such as scarves, t-shirts, and bandannas will not provide protection against wildfire smoke. A NIOSH-approved N95 filtering-facepiece respirator, shown in the image below, is the minimum level of protection for wildfire smoke.

(b) 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.

For the best protection, follow the manufacturer's instructions for medical evaluations, fit-testing, and shaving. Fit-testing is done to ensure that you have the correct size respirator, and that it seals properly. Without fit-testing, wildfire smoke can leak around the seal of the respirator and increase your risk of experiencing adverse health effects. Because of this, you should not rely on voluntary use respirators alone to protect you from wildfire smoke. Take action to reduce your exposure to wildfire smoke in the other ways described in the wildfire smoke rule and in subsection (10) of this appendix, ask your employer to voluntarily arrange for respirator fit-testing, or both.

(c) Tight-fitting respirators such as N95s cannot form a seal over facial hair. Small particles such as those in wildfire smoke will leak around the respirator if you are not clean-shaven. Be sure you are clean-shaven to ensure the respirator can seal to your face.

(d) 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 you against gases or vapors, and it will not supply oxygen. Some filtering-facepiece respirators are equipped with a sorbent layer for absorbing "nuisance" organic vapors. These can be used for voluntary use, but are not NIOSH certified for protection against hazardous concentrations of organic vapor.

(e) Keep track of your respirator, so you do not mistakenly use someone else's respirator.

(f) If you have questions about whether it is safe for you to wear a respirator, you should talk to your doctor or other medical provider, particularly if you have a heart, lung, or other medical conditions.

(9) **The risks and limitations of using an unfitted respirator, and the risks of wearing a respirator without a medical evaluation:**

Respirators such as N95s must form a tight seal to the face to work properly. This is especially important for people at increased risk for severe disease, as exposure

to wildfire smoke can worsen symptoms. A fit-test is conducted to verify that a respirator properly seals to your face so smoke does not leak around the seal.

It also ensures that the respirator be comfortable so you can wear it as long as you need. Your employer is not required to provide a fit-test for voluntary use of N95 respirators for wildfire smoke below a current $PM_{2.5}$ of 500.4 μg/m^3 (AQI 849) unless your employer chooses to require respirator use. Even without a fit-test, you can take steps to improve the respirator seal, and to reduce your exposure to wildfire smoke by following the steps in subsection (10) of this appendix.

While wearing a respirator provides protection from wildfire smoke, it increases breathing resistance, causing you to work harder to breathe. If you have heart or lung problems, talk to your doctor or other medical provider before using a respirator. A medical evaluation is conducted as part of evaluating respirator selection and use to ensure that the wearer is healthy enough to perform work while wearing a respirator. Your employer is not required to provide a medical evaluation for voluntary use of N95 respirators for wildfire smoke below a current $PM_{2.5}$ of 500.4 μg/m^3 (AQI 849) unless your employer chooses to require respirator use. If you have questions about whether it is safe for you to wear a respirator, you should talk to your doctor or other medical provider. This is particularly important if you have a heart or lung condition (including asthma), or if you have other medical conditions of concern. Follow your health care provider's advice if you have medical conditions that can be worsened by wildfire smoke exposure.

If, while wearing a respirator, you experience:

- Any symptoms your doctor, other health care provider, or employer has told you may limit or prevent the effective use of respirators; or
- Any respiratory (lung, breathing), cardiac (heart, circulation), or other symptoms (including, but not limited to, those listed under subsection (1) of this appendix) that may limit or prevent the effective use of respirators;

Then go to an area with clean air as described in WAC 296-820-830(3), take off the respirator, and get help. You should also do this if you are unsure whether a symptom you are experiencing may limit or prevent the effective use of respirators.

(10) **How to properly put on, use, and maintain the respirators provided by the employer:**

A tight-fitting respirator such as an N95 will not be able to seal to your face if facial hair interferes with the seal. Make sure you are clean-shaven to allow a better seal and more reliable protection. Loose-fitting powered air-purifying respirators do not rely on a tight seal to provide protection, so they may be worn by people with facial hair.

Always inspect your respirator for damage or defects before use, and follow the manufacturer's instructions. Replace respirators that are damaged, dirty, or wet.

The proper way to put on a respirator depends on the type and model of the respirator. For those who use a filtering-facepiece respirator such as an N95 follow these steps to put on the respirator:

(a) With clean, dry hands, inspect the respirator and straps for any damage or defect.

(b) Hold the respirator with the straps facing you, and the metal or foam nosebridge facing up.

(c) Place the mask with the top over your nose and the bottom under your chin. Hold the mask in place with one hand.

(d) While holding the mask to your face with one hand, grab the top strap with the other hand.

(e) Pull the top strap over your head and place it so the strap goes above your ears.

(f) While continuing to hold the mask to your face, pull the bottom strap over your head and place it so the strap goes below your ears.

(g) Bend the nosepiece of the respirator over the top of the nose, so it fits securely.

(h) Perform a seal check:

(i) The mask should sit snug on your face, with the top strap above your ears, the bottom strap below.
(ii) Cover the respirator with both hands and exhale. If you feel air leaking where the respirator seals against your face, adjust the

respirator and nosepiece and try again. The respirator should bulge from the face and not leak around the seal.

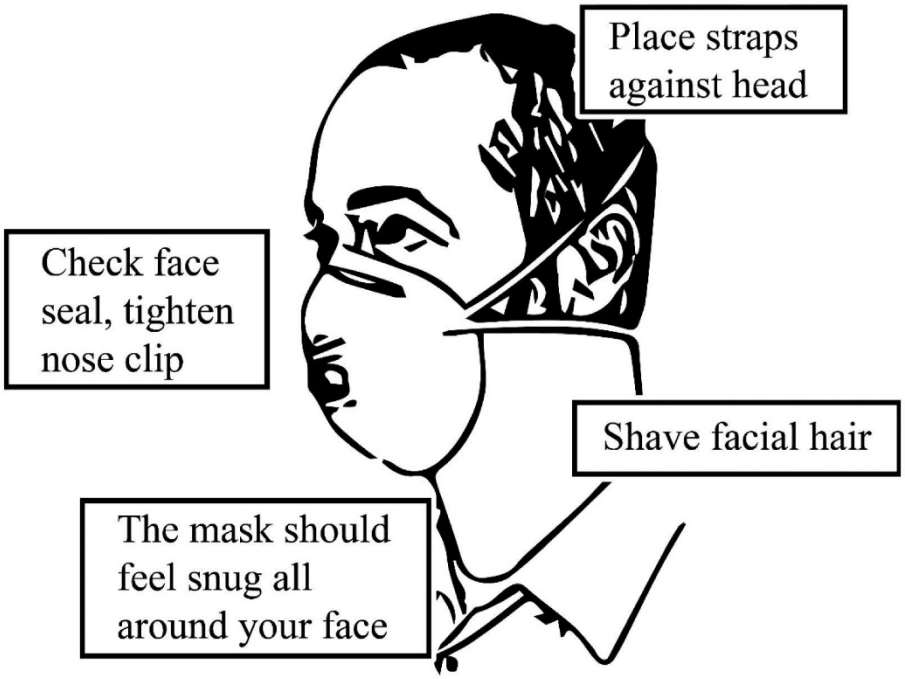
(iii) Next, cover the respirator with both hands and inhale. If you feel air leaking where the respirator seals against the face, adjust the respirator and nosepiece and try again. The respirator should collapse slightly and not leak around the seal.

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

If, while wearing a respirator, you experience:

- Any symptoms your doctor, other health care provider, or employer has told you may limit or prevent the effective use of respirators; or
- Any respiratory (lung, breathing), cardiac (heart, circulation), or other symptoms (including, but not limited to, those listed under subsection (1) of this appendix) that may limit or prevent the effective use of respirators;

Then go to an area with clean air as described in WAC 296-820-830(3), take off the respirator, and get help. You should also do this if you are unsure whether a symptom you are experiencing may limit or prevent the effective use of respirators.



WAC 296-820-860 Appendix B: Calculating the Air Quality Index for $PM_{2.5}$ (nonmandatory).

The Air Quality Index (AQI) for $PM_{2.5}$ is calculated as follows:

$$I_P = \frac{I_{Hi} - I_{Lo}}{BP_{Hi} - BP_{Lo}}\left(C_p - BP_{Lo}\right) + I_{Lo}$$

Where:

I_P is the Air Quality Index value for $PM_{2.5}$
C_p is the concentration of $PM_{2.5}$ in $\mu g/m^3$ truncated to 1 decimal place
BP_{Hi} is the concentration breakpoint that is greater than or equal to C_p
BP_{Lo} is the concentration breakpoint that is less than or equal to C_p
I_{Hi} is the AQI value corresponding to BP_{Hi}
I_{Lo} is the AQI value corresponding to BP_{Lo}

$PM_{2.5}$ Breakpoints[1]	AQI[1]	AQI Category[1]	WA DOH Health Messaging[2]
0.0 – 9.0	0 – 50	Good	It is a great day to be active outside and a good time to make a plan if worse air quality is in the forecast.
9.1 – 35.4	51 – 100	Moderate	Some people are especially sensitive to lower levels of particle pollution and should reduce exposure. For example, limit time outside and avoid strenuous outdoor activity. All sensitive groups should watch for symptoms.
35.5 – 55.4	101 – 150	Unhealthy for sensitive groups	Sensitive groups should take steps to reduce exposure. Limit time outside, avoid strenuous outdoor activity, and follow tips for cleaner indoor air. Everyone should watch for symptoms as a sign to reduce exposure.

[1] Federal Register Vol. 89, No. 45, Page 16405, March 6, 2024: http://www.govinfo.gov/content/pkg/FR-2024-03-06/pdf/2024-02637.pdf.

[2] Washington Department of Health. April 2022, accessed March 14, 2024. Washington Air Quality Guide for Particle Pollution: **https://doh.wa.gov/sites/default/files/legacy/Documents/4300/waqa%20infographic%5fEnglish.pdf?uid=64384c71c8715**

$PM_{2.5}$ Breakpoints[1]	AQI[1]	AQI Category[1]	WA DOH Health Messaging[2]
55.5 – 125.4	151 – 200	Unhealthy	Everyone should reduce exposure. Limit time outside, avoid strenuous outdoor activity, and follow tips for cleaner indoor air
125.5 – 225.4	201 – 300	Very unhealthy	Everyone should reduce exposure. Stay inside and filter indoor air to keep it cleaner. Go elsewhere for cleaner air, if needed.
225.5 or more	301 – or more	Hazardous	Everyone should reduce exposure. Stay inside and filter indoor air to keep it cleaner. Go elsewhere for cleaner air, if needed.

Statutory Authorities for Wildfire Smoke Chapter 296-820 WAC

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, and chapter 49.17 RCW. WSR 25-09-064, s 296-820-840, filed 4/15/25, effective 5/16/25; WSR 24-01-070, § 296-820, filed 12/14/23, effective 1/15/24.]