

CONCISE EXPLANATORY STATEMENT

Wildfire Smoke

Chapter 296-820 WAC, Wildfire Smoke, and Chapter 296-307 WAC, Safety Standards for Agriculture

Public Hearings: July 18, 19, 20, 25, 26, 27, 28 and 31, 2023

Adoption: December 14, 2023

Effective: January 15, 2024

Table of Contents

I.	Purpose of Rulemaking.....	Page 2
	A. Background.....	Page 2
	B. Summary of the Rulemaking Activities.....	Page 3
II.	Changes to the Rules.....	Page 3
III.	Comments on Proposed Rule.....	Page 6
	A. Comment Period.....	Page 6
	B. Public Hearings.....	Page 6
	C. Summary of Comments Received and L&I's Response.....	Page 6
	• WAC 296-820-805 and 296-307-09805 Purpose and Scope.....	Page 6
	• WAC 296-820-810 and 296-307-09810 Definitions.....	Page 26
	• WAC 296-820-815 and 296-307-09815 Identification of Harmful Exposures.....	Page 27
	• WAC 296-820-820 and 296-307-09820 Hazard Communication.....	Page 41
	• WAC 296-820-825 and 296-307-09825 Information and Training....	Page 50
	• WAC 296-820-830 and 296-307-09830 Exposure Symptom Response.....	Page 57
	• WAC 296-820-835 and 296-307-09835 Exposure Controls.....	Page 65

- WAC 296-820-840 and 296-307-09840 Respiratory Protection.....Page 70
- WAC 296-820-845 and 296-307-09845 Measuring PM_{2.5} Levels at the Worksite.....Page 91
- WAC 296-820-850 and 296-307-09850 Appendix A: Protection from wildfire smoke information and training (mandatory).....Page 93
- WAC 296-820-860 and 296-307-09860 Appendix B: Calculating the Air Quality Index for PM_{2.5} (nonmandatory).....Page 98
- General Comments.....Page 100
- Cost Benefit Analysis/Small Business Economic Impact Statement (CBA & SBEIS).....Page 145

I. Purpose of Rulemaking

This rulemaking was originally initiated in response to a petition for L&I to create rules to protect agricultural workers during wildfire smoke events. The petition was submitted by the United Farm Workers (UFW) on September 28, 2020, in response to the historic 2020 wildfires. L&I responded by accepting the petition and initiated formal rulemaking by filing a pre-proposal statement of inquiry (CR-101) on October 20, 2020.

A. Background

Wildfire smoke presents hazards that employers and workers in affected regions must understand. Smoke from wildfires contains chemicals, gases and fine particles that can harm health. Proper protective equipment, exposure controls, and training are needed for employees working in wildfire regions.

L&I issued emergency rules in the summer of 2021 and 2022, and began the permanent rulemaking process. A CR-101 (Preproposal) was filed on October 20, 2020. Prior to the issuance of the emergency rule in summer 2021, there were no regulations to address the hazard of wildfire smoke inhalation among outdoor workers in Washington State.

B. Summary of the rulemaking activities

- Petition received on September 28, 2020, which initiated rulemaking.
- January 2021 through June 2021, five virtual stakeholder meetings were held to discuss an emergency rule for the 2021 wildfire season and continue to discuss the permanent rule.
- On July 16, 2021, an emergency rule was filed.
- Additional virtual stakeholder meetings were held in January and April 2022 to discuss another emergency rule for the 2022 wildfire season and continue to discuss the permanent rule.
- On June 1, 2022, an emergency rule was filed.
- In October 2022, three in-person stakeholder meetings were held around the state in addition to one virtual. These meetings were held to discuss the permanent rule.
- Over 1,700 stakeholders have attended meetings during the rule development process, starting in January 2021.
- A CR-102 proposed rulemaking was filed on May 10, 2023.

II. Changes to the Rules (Proposed rule versus rule adopted)

Throughout both chapters the following changes were made:

- Ensured consistent formatting of internal and external rule references.
- Ensured consistent use of “PM_{2.5}” and “current PM_{2.5}”.
- Ensured consistent use of “NowCast AQI for PM_{2.5}”.
- Corrected grammatical errors. Ensured consistent hyphenation of terms.
- Renumbered certain sections where the language was modified.

WAC 296-820-805 and 296-307-09805 Purpose and scope.

- Added to the list exemptions a subsection (4) relating to workers performing prescribed burns.

WAC 296-820-810 and 296-307-09810 Definitions.

- Removed definition of “Adverse symptoms requiring medical attention”.
- Clarified note under “Current PM_{2.5}” referred to “NowCast AQI”.

- Clarified the note relating to the recent proposed revisions to the AQI from the Environmental Protection Agency (EPA).
- Added “of public and occupational health concern” to the definition of “Wildfire smoke”.

WAC 296-820-815 and 296-307-09815 Identification of harmful exposures.

- Clarified language introducing the PM_{2.5}/AQI table to reflect that the NowCast AQI may be used to comply with the wildfire smoke rule, but it is not equivalent to the current PM_{2.5}.
- Updated table headings for clarity.

WAC 296-820-820 and 296-307-09820 Hazard communication.

- Added language relating to the hazard communication system and removed the word “effective”.
- Removed the word “adverse” in relation to symptoms for clarity and consistency.
- To provide clarity, added list of examples of symptoms.
- Replaced “medical treatment” with “medical attention” for clarity and consistency.
- Clarified that the wildfire smoke response plan must include the employer’s methods of determining the current PM_{2.5}.

WAC 296-820-825 and 296-307-09825 Information and training.

- Clarified that training must be provided annually.
- Removed the word “effective”.
- Removed the word “adverse” in relation to symptoms for clarity and consistency.
- Clarified that the wildfire smoke training must include information on the employer’s methods of determining the current PM_{2.5}.
- Clarified transportation to either an emergency medical provider, or other appropriate level of care.
- Replaced “medical treatment” with “medical attention” for clarity and consistency.

WAC 296-820-830 and 296-307-09830 Exposure symptom response.

- Replaced “medical treatment” with “medical attention”, and clarified that employees displaying symptoms of wildfire smoke exposure must be allowed to seek medical attention, or follow medical advice.
- To provide clarity, added list of symptoms requiring immediate medical attention.
- Clarified employer obligations to reduce exposure to employees experiencing symptoms of wildfire smoke exposure.

WAC 296-820-835 and 296-307-09835 Exposure controls.

- Added “exposures to” to the language in subsection (3)(e) for clarity.

WAC 296-820-840 and 296-307-09840 Respiratory protection.

- Added “N95 filtering-facepiece” for clarity.
- Moved the exception relating to the required use of N95 respirators from a note to the body of the rule language.
- Separated notes on voluntary use of filtering facepiece respirators, and voluntary use of elastomeric respirators.

WAC 296-820-845 and 296-307-09845 Measuring PM_{2.5} levels at the worksite.

- Clarified that “this section” refers to WAC 296-820-845 and 296-307-09845.
- Ensured the terms “sensor” and “monitor” are used consistently.
- Moved the language from WAC 296-820-855 and 296-307-09855, Appendix B: Selecting direct-reading particulate monitors (mandatory) to this section.
- Corrected units for particle size from $\mu\text{g}/\text{m}^3$ to μm .
- Clarified that 1-hour average PM_{2.5} concentrations must be used.

WAC 296-820-850 and 296-307-09850 Appendix A: Protection from wildfire smoke information and training (mandatory).

- Rewrote, reorganized, and renumbered this section for clarity, consistency, readability, and technical accuracy.
- Clarified the language in the rule summary table.
- Added a subsection relating to the employer’s methods of determining the current PM_{2.5}.

WAC 296-820-855 and 296-307-09855 Appendix B: Selecting direct-reading particulate monitors (mandatory).

- Deleted this section and moved the requirements to WAC 296-820-845 and 296-307-09845.

WAC 296-820-860 and 296-307-09860 Appendix C: Calculating the air quality index for PM_{2.5} (nonmandatory).

- Changed the title of this section to Appendix B.

III. Comments on Proposed Rule

A. Comment Period

The comment period for this rulemaking was open from May 10, 2023 when the proposed rulemaking (CR-102) was filed through 5:00 p.m. on August 4, 2023. A total of 129 written comments were received and 14 people provided oral testimony at the public hearings.

B. Public Hearings

Date:	Time:	Location:	Attendance	Testified:
July 18, 2023	10:00 a.m.	Hampton Inn by Hilton, Spokane	3	1
July 19, 2023	10:00 a.m.	Red Lion Hotel Columbia Center, Kennewick	8	2
July 20, 2023	10:00 a.m.	Spring Hill Suites by Marriott, Bellingham	9	1
July 25, 2023	10:00 a.m.	Clark College at Columbia Center, Vancouver	6	2
July 26, 2023	10:00 a.m.	Dept. Labor & Industries, Tukwila	14	3
July 27, 2023	10:00 a.m.	Yakima Valley College, Yakima	8	3
July 28, 2023	2:00 p.m.	Virtual via Zoom Webinar	62	2
July 31, 2023	6:30 p.m.	Virtual via Zoom Webinar	17	0

C. Summary of Comments Received and L&I's Responses

Below is a summary of the comments L&I received, both through testimony and written comments, and the responses. We received a total of 129 written comments and 14 oral testimonies on the rule. Comments received are summarized by topic in order to provide clarity for response, and not a verbatim accounting of each individual comment.

Comment	L&I Response
WAC 296-820-805 and 296-307-09805 Purpose and Scope	
I have driven for the two largest public transportation providers in Western Washington. During two of those summers (one at each agency), we had record levels of smoke, for record duration. I came home blowing soot	Thank you for your comment. The adopted wildfire smoke rule applies to buses, light rail, and other enclosed vehicles used for transit systems where doors are opened

<p>contaminated, black mucous from my nose. I coughed up similar mucous. The transit agencies did not provide any training or PPE. https://www.seattletimes.com/seattle-news/environment/wa-wants-permanent-rules-for-working-outdoors-in-wildfire-smoke/</p>	<p>frequently to board and deboard passengers. It also applies in buildings and vehicles where the employer does not, or cannot ensure that windows, doors, and other openings are kept closed. Under this adopted rule, transit agencies will be required to provide training when the PM_{2.5} reaches 20.5 µg/m³ (69 AQI) and will be required to provide respirators for voluntary use, such as N95s, when the PM_{2.5} reaches 35.5 µg/m³ (101 AQI). Employers are required to provide and ensure that employees wear respirators when the PM_{2.5} concentration reaches 500.4 µg/m³ (500 AQI) or higher.</p> <p>This comment did not result in a change in the adopted rules language.</p>
<p>I also request that “affected employees” be clearly defined. How is the employer expected to demonstrate that a worker is exempt because their exposure is less than 1 hour per day?</p>	<p>Thank you for your comment.</p> <p>There is no exemption from the rule for employees exposed less than one hour per day. The term “affected employees” refers to employees covered under the scope of the rule, which is employees of all workplaces except those identified in WAC 296-820-805 and 296-307-09805.</p> <p>This comment did not result in a change in the adopted rules language.</p>
<p>As written, this rule does not regulate exposure to wildfire smoke. It regulates PM_{2.5}, regardless of source.</p> <p>WAC 296-820-805, along with the definitions in WAC 296-820-810, identifies exposure based solely on exposure to PM_{2.5} and apparently assumes that all PM_{2.5} is from smoke, regardless of the presence or absence of wildfires. This chapter, therefore, protects employees from particulate exposure, not smoke exposure. Particulate exposure is already addressed in WAC 296-840, Respirable Crystalline Silica, WAC 296-841, Airborne Contaminants, and various other rules. How are</p>	<p>Thank you for your comment.</p> <p>PM_{2.5} is the primary contaminant of public health concern in wildfire smoke. While PM_{2.5} may also be generated by other sources such as agricultural dust and vehicle traffic, these sources of dust consist primarily of larger particles such as PM₁₀. The intent of the rule is to apply to wildfire smoke exposures. Based on currently available historical data, the PM_{2.5} thresholds in the rule will rarely be reached unless there wildfire smoke is a contributing factor. L&I will not cite employers unless the PM_{2.5} includes emissions from wildfires. Enforcement guidance will be provided to DOSH Compliance Staff in the form of a DOSH Directive.</p>

<p>users to determine which set of rules is applicable, particularly when there are no wildfires in the vicinity?</p> <p>It is not unusual in parts of eastern Washington, including Tri-Cities, for particulate concentrations to exceed levels established in this chapter. This can occur due to agricultural dust following wind events, during winter inversions, or other periods of air stagnation. These events may trigger the requirements of this chapter even without the occurrence of wildfires. It was indicated during public hearings that this is not the intent, but without clarification in the regulation, that is the effect.</p> <p>Bearing in mind that this rule relies on readings of PM_{2.5} concentrations, not on true smoke concentrations, and these scenarios become applicable year-round in a variety of conditions outside the advertised scope of the rule.</p> <p>The scope must either be revised to restrict it to smoke, or all references to smoke throughout the chapter should be removed and replaced with “fine particulates, such as those in wildfire smoke” or similar.</p>	<p>There may be times when an employer is covered by both the wildfire smoke rule and the airborne contaminants rule. The wildfire smoke rules are designed to cover PM_{2.5} from wildfire smoke rather than workplace-generated particulate matter. That said, workplace-generated particulate matter may contribute to the overall PM_{2.5} exposure of employees. In this case, the employer must protect employees from PM_{2.5}, as described in the wildfire smoke rule. Workplaces generating particulate matter due to work processes must evaluate such exposures as described by chapter 296-841 WAC. In the case of dual exposures, the employer must protect workers from each exposure.</p> <p>This comment did not result in a change to the adopted rules language.</p>
<p>The current standard now states in a note “Employees exposed to PM_{2.5} for a total of 15 minutes or less during a 24-hour period are exempt from the requirements in WAC 296-820-840(4).” Imagine an administrative employee who makes an 8-minute walk to another building for a meeting, and then returns to their office and remains for the rest of the day. Even if PM_{2.5} concentrations on that day are 501 µg/m³, this employee’s TWA exposure for the workday is less than 20 µg/cm³. In spite of this low exposure level, this rule will require that employee to be enrolled in a</p>	<p>During stakeholdering, L&I has heard that many employers in the educational sector will not be conducting in-person operations when PM_{2.5} concentrations are above 500 µg/m³ because of the severity of the hazard.</p> <p>In response to the imminent hazard such profound concentrations of PM_{2.5} can pose to employees whose employers choose to continue operating in these unusual conditions, L&I accordingly limited the exemption provided by WAC 296-820-840(4)(d) and 296-307-09840(4)(d) to 15 minutes in order to prevent employees from being</p>

respiratory protection program (spending 3-4 hours in training, fit testing, and medical evaluations) based solely on the 16 minutes spent walking outside. The employee doesn't even approach – much less exceed – the existing PEL concentrations for respirable particulates, including those associated with silica and welding fumes, and would not be required to have respiratory protection at these particulate concentrations if they worked in a manufacturing facility for 8 hours. But, they'll need a respirator if they walk outside for 15 minutes.

Now imagine the same employee taking the same walk on a day with PM_{2.5} concentrations of 21 µg/m³. This employee's TWA exposure is now less than 1 µg/m³ for the day, but we're still required to provide training on health effects and are "encouraged" to provide exposure controls.

If exposure limits are established for smoke, they must rely on a time-weighted average, rather than discrete concentrations, in the same manner established for virtually every airborne contaminant. The explanation that TWAs are not appropriate because smoke concentrations change is not convincing, because concentrations of virtually all airborne contaminants change, but they remain regulated based on TWA.

exposed without respiratory protection to unlimited concentrations of PM_{2.5} for at least 59 minutes whenever a wildfire smoke event drives this air contaminant beyond 500.4 µg/m³. Such highly-exposed employees are in the greatest need of the protective interventions required by these adopted rules, particularly respirators. WAC 296-820-840(4)(d) and 296-307-09840(4)(d) protect employees exposed to greater than 500.4 µg/m³ of PM_{2.5} to the extent feasible.

The regulation of airborne contaminants follows from the nature of the substance-specific hazard. Considering exposures from wildfire smoke, eight-hour time weighted averages would not be an appropriate means of determining necessary exposure controls. Wildfire smoke concentrations can change rapidly based on conditions that employers cannot control or predict. If eight-hour time weighted averages were used, the results would not be known until at least the end of the shift. Eight-hour TWAs cannot provide relevant information during rapidly changing conditions; once the hazard is determined, the information will no longer be actionable, and exposures would have changed requiring employers to perform another exposure assessment. Similarly, real time projections of an eight-hour TWA underestimate exposures at the beginning of the shift (for example, the first hour of PM_{2.5} data would be averaged over 8 hours) which retains the issue where employee exposures are not accurately characterized until the end of the shift by which point they are no longer relevant. Due to these reasons, L&I rejected the use of an eight-hour TWA.

The requirements in these adopted rules that start at the 20.5 µg/m³ threshold follow from L&I's review and determination that there is no known safe exposure to PM_{2.5}, that wildfire smoke exposure is a recognized hazard to outdoor workers, and that WISHA mandates that L&I "[p]rovide for the promulgation of health and safety standards and the control of conditions in all workplaces concerning...harmful

	<p>physical agents which shall set a standard which most adequately assures, to the extent feasible, on the basis of the best available evidence, that no employee will suffer material impairment of health or functional capacity.” As such, L&I’s role is to adopt rules that set standards to protect against occupational hazards that are feasible. L&I conducted a cost-benefit analysis, which is available on L&I’s website.</p> <p>This comment did not result in a change in the adopted rules language.</p>
<p>The scope should similarly be revised to be applicable to employees “performing work activities,” not to those who are simply traveling between buildings or other non-strenuous activities. These exposures are indistinguishable from normal activities, which most individuals will perform without protection.</p>	<p>Thank you for your comment.</p> <p>Traveling between buildings is a work activity if employees are performing such a function as part of their work duties. Chapter 49.17 RCW covers employees during work and; contains no exemption for activities substantially similar to those performed in the course of daily life, such as walking or talking.</p> <p>This comment did not result in a change in the adopted rules language.</p>
<p>After the recent Fourth of July celebrations, the 1-hour average of PM_{2.5} levels in Tacoma were over 700 µg/m³.</p> <p>a) Will high pollution days of PM_{2.5} not associated with wildfires be explicitly excluded from the rule?</p> <p>b) How has DOSH differentiated the risk between non-wildfire smoke PM_{2.5} levels and wildfire smoke related PM_{2.5} levels?</p>	<p>Thank you for your comment.</p> <p>PM_{2.5} is the primary contaminant of public health concern in wildfire smoke. While PM_{2.5} may also generated by other sources of pollution, such as agricultural dust and vehicle traffic, the intent of the rule is to apply to wildfire smoke exposures, based on current data. The PM_{2.5} thresholds in the rule will rarely be reached unless there is wildfire smoke is contributing factor. L&I will not cite employers unless the PM_{2.5} includes emissions from wildfires. Guidance will be provided to DOSH Compliance Staff in the form of a DOSH Directive.</p> <p>This comment did not result in a change to the adopted rules language.</p>
<p>Delivery drivers spend much of their time outside of their vehicles, exposed to the air, thus their exemption undermines the purpose of these rules and the legislation</p>	<p>Thank you for your comment.</p>

<p>they enforce. We reached out to gig and delivery workers in our network to determine how wildfire smoke affects them. These workers reported that they regularly spend many hours each workday outside their vehicles.</p> <p>When AQI is high as a result of wildfires elsewhere in Washington, gig workers report all the symptoms of smoke exposure. Gig and delivery workers attested that the protections required by the proposed rule would benefit them, especially provision of masks and protection against retaliation in the form of deactivation should they decide not to accept further orders when experiencing symptoms. It is particularly unfair to exclude gig workers from wildfire smoke protections in light of the role some play in support of fire fighters, including delivering food to them in remote areas. We agree with the question raised by one worker, “why is the health and safety of a 1099 worker not as important as other workers?” Our proposed changes to the draft rules reflect these sentiments and the importance of protecting all workers from wildfire smoke exposure, as follows. Please make the following changes, <u>underlined</u>.</p> <p>WAC 296-820-805(2)/296-307-09805(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. <u>This does not exempt employers of and companies that contract with delivery drivers or other workers who operate vehicles when those workers regularly enter and exit the vehicles as part of their job duties. ...</u></p>	<p>Delivery drivers who are employees under WISHA fall under the scope of the wildfire smoke rule for the period of time when they are outside of the delivery vehicle. This means that employers of delivery drivers must implement the entirety of the wildfire smoke rule as long as the thresholds in the rules are met. Under WISHA, independent contractors are considered employees where the essence of the contract is personal labor (RCW 49.17.020(5)). In addition, under WISHA, DOSH will look to the economic realities test to determine whether a worker is an employee or an independent contractor. The economic realities test looks at several factors, including who controls the work being performed. The method of payment via a 1099 is not determinative.</p> <p>This comment did not result in a change to the adopted rules language.</p>
<p>I would like to recommend that the Department focus the training and the public disclosure information, based on</p>	<p>Thank you for your comment.</p>

<p>PM_{2.5} numbers that we're seeing and try as best you can to get away from the AQI. The occupational hazard is PM_{2.5}. That's the point of the respirator protection recommended by the Department, and I really think that focus of this standard beyond that. I don't think we need to rewrite anything, just in terms of public information. That's the part that the businesses should focus on. The PM_{2.5} is the real occupational hazard. The particulate matter that small, that could be deeply respirated. That's what businesses and people need to really focus on, not the other five elements of the AQI.</p>	<p>The wildfire smoke rule is based on PM_{2.5}, but the equivalent AQI is allowed for ease of implementation.</p> <p>This comment did not result in a change to the adopted rules language.</p>
<p>Placing this rule under the safety standards for agriculture (WAC 296-307) is confusing when it applies to all workplaces. Most employers would not reference the agricultural safety standards if they did not engage in agricultural activities.</p>	<p>Thank you for your comment.</p> <p>L&I is required under RCW 49.17.041 to place all standards that apply to agricultural settings into chapter 296-307 WAC, Safety standards for agriculture. L&I has created chapter 296-820 WAC, Wildfire Smoke to apply to employers in general industry, with exceptions listed in the Purpose and Scope section, WAC 296-820-805.</p> <p>This comment did not result in a change to the adopted rules language.</p>
<p>For employees assigned to work inside buildings, that may occasionally walk to other buildings or to a vehicle then travel to another building with incidental smoke (PM_{2.5}) exposure, would the training and respiratory protection requirements apply to them?</p>	<p>Thank you for your comment.</p> <p>Under the scope of chapter 296-820 WAC, Wildfire Smoke, employees are exempt if they are working in enclosed buildings or structures where openings are kept closed, or enclosed vehicles in which air is filtered.</p> <p>However, the requirements for training are in place whenever an employee is exposed to PM_{2.5} at a concentration of 20.5 µg/m³ (69 AQI) or higher. Respirators, such as N95s, are required to be provided to employees for voluntary use when the PM_{2.5} reaches a concentration of 35.5 µg/m³ (AQI 101). Employees are not required to wear respirators until the PM_{2.5} concentration reaches 500.4 µg/m³ (500 AQI) or higher. Employees exposed to PM_{2.5} for a total of 15</p>

	<p>minutes or less during a 24-hour period are exempt from required use of respirators in WAC 296-820-840(4).</p> <p>This comment did not result in a change in the adopted rules language.</p>
<p>The exemptions in WACs 296-307-09805 and 296-820-805 for workers in enclosed buildings and enclosed vehicles leave a broad gap in coverage for employees in buildings without mechanical ventilation systems and for delivery drivers. While some buildings may be “enclosed” as defined in the draft, the regular opening of doors for entry and exit may, on days with very poor air quality, result in indoor AQI above the thresholds reflected elsewhere in the rules. We propose adopting the standard in Oregon’s administrative rules, OR 437-002-1080(1)(B), which requires mechanical ventilation in enclosed buildings in order to exempt employers from these protections, as suggested below.</p> <p>Please make the following changes, <u>underlined</u>.</p> <p>WAC 296-820-805(2)/296-307-09805(2): Enclosed buildings or structures in which the employer <u>maintains a mechanical ventilation system</u> and 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.</p>	<p>Thank you for your comment.</p> <p>While workers in indoor settings may also experience exposure to wildfire smoke, such exposures can be significantly reduced when doors and windows are kept closed, and ventilation systems are properly used. Workers in outdoor settings have the greatest exposure to the hazard of wildfire smoke. L&I limited the scope of the wildfire smoke rules to apply to outdoor settings and to those settings that have similar exposure levels to outdoor settings (i.e. vehicles without cabin air filters, indoor settings where doors and windows are kept open or are opened frequently, etc.) Expanding this rulemaking to other indoor locations is outside the scope of this rulemaking. L&I may consider future rulemaking on this topic.</p> <p>This comment did not result in a change to the adopted rules language.</p>
<p>We represent educators who work inside school buildings; in school transportation programs; and educators who also spend part of their days outside either for recess, classroom experiences, or supervising school arrivals and departures.</p> <p>Educators are worried about their own and their students’ exposures to wildfire smoke. In addition, they are concerned that high building temperatures can reach</p>	<p>Thank you for your comment.</p> <p>While workers in indoor settings may also experience exposure to wildfire smoke, such exposures can be significantly reduced when doors and windows are kept closed, and ventilation systems are properly used. Workers in outdoor settings have the greatest exposure to the hazard of wildfire smoke. L&I limited the scope of the wildfire smoke rules to apply to outdoor settings and to those settings that have</p>

<p>dangerous levels when the main mitigation strategy for schools to address wildfire smoke hazards is to remain indoors with windows closed. Many schools do not have air conditioning, which can exacerbate the problems created by wildfire smoke during summer months or fall heat waves.</p> <p>The proposed rules in WAC 296-307-09805, WAC 296-307-09830, WAC 296-307-09835, WAC 296-820-805, WAC 296-820-830, and WAC 296-820-835 indicate that indoor spaces are exempt from exposure control requirements – regardless of air quality – or are a mitigation strategy if the enclosed structure has sufficient HEPA filtration.</p> <p>However, we would recommend specifying both air filtration and temperature regulation requirements when indoor options are employed to mitigate exposure. Uncontrolled wildfires are appearing in more areas that have not historically experienced wildfires and in more areas that have not traditionally been equipped with air conditioning systems. When wildfires and heat waves occur simultaneously, building temperatures can become unbearable and dangerously unhealthy when a school (or other work site) is not equipped with air conditioning to control indoor temperatures when windows must be closed.</p>	<p>similar exposure levels to outdoor settings (i.e. vehicles without cabin air filters, indoor settings where doors and windows are kept open or are opened frequently, etc.) Expanding this rulemaking to other indoor locations is outside the scope of this rulemaking. L&I may consider future rulemaking.</p> <p>This comment did not result in a change to the adopted rules language.</p>
<p>Include indoor workplaces that do not have effective air filtration systems. In the draft rule, indoor work settings are excluded from wildfire safety requirements if the doors and windows are usually closed, regardless of indoor air quality. Work sites such as warehouses and packing sheds may be classified as indoor spaces, though the air quality may be similar to the outdoor environment due to poor</p>	<p>Thank you for your comment.</p> <p>While workers in indoor settings may also experience exposure to wildfire smoke, such exposures can be significantly reduced when doors and windows are kept closed, and ventilation systems are properly used. Workers in outdoor settings have the greatest exposure to the hazard of wildfire smoke. L&I limited the scope of the wildfire</p>

<p>ventilation. Washington workers deserve at least the same level of protection as their counterparts in Oregon and California, where wildfire regulations must be observed at indoor work sites with poor air quality. Washington’s own Department of Health recommends that in the event of wildfire smoke, people “stay indoors with cleaner indoor air” (emphasis mine) that is filtered via an HVAC system or other means.</p> <p>The community guidance from Washington’s leading public health agency suggests that many indoor workers are at risk of exposure to wildfire smoke. However, the scope of this rule may imply that simply closing doors and windows protects people from wildfire smoke exposure. Unfortunately, it is not that simple. Indoor environments provide varying levels of protection against wildfire smoke exposure and the wildfire smoke safety rule should address this variation.</p>	<p>smoke rules to apply to outdoor settings and to those settings that have similar exposure levels to outdoor settings (i.e. vehicles without cabin air filters, indoor settings where doors and windows are kept open or are opened frequently, etc.) Expanding this rulemaking to other indoor locations is outside the scope of this rulemaking. L&I may consider future rulemaking.</p> <p>This comment did not result in a change to the adopted rules language.</p>
<p>We’re a national, nonprofit advocacy organization seeking to build a just and inclusive economy for all workers including the right to be free of illness and injury at work and to go home safe at the end of the day. We just wanted to start off by really appreciating the fact that Washington State is so ahead of the curve on Wildfire Smoke protections. So we would encourage the Department of Labor & Industries to be as inclusive as possible in industries and employers to which this rule would apply; call for protections as soon as air quality becomes dangerous; and ensure that workers in non-standard employment arrangements also receive full protection.</p>	<p>Thank you for your comment.</p> <p>While workers in indoor settings may also experience exposure to wildfire smoke, such exposures can be significantly reduced when doors and windows are kept closed, and ventilation systems are properly used. Workers in outdoor settings have the greatest exposure to the hazard of wildfire smoke. L&I limited the scope of the wildfire smoke rules to apply to outdoor settings and to those settings that have similar exposure levels to outdoor settings (i.e. vehicles without cabin air filters, indoor settings where doors and windows are kept open or are opened frequently, etc.) Expanding this rulemaking to other indoor locations is outside the scope of this rulemaking. L&I may consider future rulemaking.</p> <p>This comment did not result in a change to the adopted rules language.</p>

<p>We really would suggest that care be taken to protect both outdoor workers and indoor workers who may experience poor air quality as a result of smoke. And exemptions for indoor workers should be limited to work places that can convincingly demonstrate an ability to provide clean air and safe workplaces.</p> <p>We're particularly concerned, some of the housing stock in parts of Washington State are very old. The way the indoor protections are written, smoke can still come into the building through outdated HVAC or windows. We would hope that there would be provisions in place to protect those workers.</p> <p>We really commend L&I for the exemption for bus drivers noting that the constant opening and closing of the door, ingress and egress of passengers, means smoke comes into that workplace. Similarly we would urge you to consider workers in places like grocery stores with large sliding glass doors that open and close all day. And similarly loading docks and warehouses can have significant periods of time during the day where it's open.</p>	
<p>Could the rule define incidental exposure or a permissible amount of time to be outside of a building as a part of their duties where these workers would still qualify for the exception?</p>	<p>Thank you for your comment.</p> <p>There is not an exception for incidental exposure under the scope of the rule, but there is an exemption from the required use of respirators. Employees exposed to PM_{2.5} for a total of 15 minutes or less during a 24-hour period are exempt from required use of respirators in WAC 296-820-840(4).</p> <p>This comment did not result in a change in the adopted rules language.</p>
<p>The emergency rules in 2021 and 2022 were applicable to those working outdoors for one hour or more. By reducing</p>	<p>Thank you for your comment.</p>

<p>this threshold to 15 minutes, this rule now applies to individuals performing such mundane, low-intensity activities as walking between buildings. This creates a training and monitoring requirement even for employees who do not truly perform outdoor work, and is a burden that has not been properly characterized.</p>	<p>The wildfire smoke rules do not have a time threshold for scope inclusion; rather they apply to all workplaces, with exemptions listed in WACs 296-307-09805 and 296-820-805. There is a 15-minute exemption for the required use of respirators when the PM_{2.5} is between 500.4 µg/m³ and 554.9 µg/m³.</p> <p>Given that there is no concentration of PM_{2.5} exposure that is known to be safe, it is important that employees with outdoor exposure be trained on PM_{2.5} and informed of the risk. Notifying employees of their exposures is required in order to ensure that employees are aware of when they need to take action to protect themselves.</p> <p>As part of the development of the wildfire smoke permanent rule, as with any significant legislative rule, L&I conducted a cost-benefit analysis.</p> <p>While an SBEIS was not required for the rule adoption, L&I did review the small business impact measures in RCW 19.85.030(2) prior to proposing the rule and we have updated the SBEIS memo to reflect the mitigation measures we considered and are taking.</p> <p>This comment did not result in a change in the adopted rules language.</p>
<p>How we currently read the rule language regarding incidental exposures, that a person’s incidental walk through smokey air to their actual non-smokey indoor workplace isn’t covered by the rule. We ask that you clarify the language when you discuss the scope of the rule at the beginning because it doesn’t spell it out in a way that applies to the entire rule, including the voluntary masking requirements for employers.</p>	<p>Thank you for your comment.</p> <p>The scope of the wildfire smoke rules are outlined in WACs 296-307-09805 and 296-820-805.</p> <p>If employees are required to perform activities that fall under the scope of the rules, even briefly, the employer is covered by the rules. Employers may consider altering their work schedules or activities on days that the rule is in effect to avoid falling under the scope of the rules.</p> <p>This comment did not result in a change to the adopted rules language.</p>

Doors on transit buses are open as much as 50 percent of the time, and as often as every other block. Passengers, in spite of being directed to keep windows closed to allow the air-conditioning to work, open them anyway. The argument that the public transit agencies will make is that they have MERV 9, or better filters for the interior of the bus. It doesn't work, because contaminated air enters via door openings faster than internal air can be filtered and cleared, even if passengers could be persuaded not to open the windows. (Having drivers enforce window closures will get them assaulted). Mechanics work in buildings where doors are usually kept open to the outside in all seasons to facilitate one less task when moving equipment in and out of the buildings, to dissipate VOC's, and for natural light. For that reason, the outside air quality is the inside air-quality. Transit needs to be subject to the new rules, including training requirements for employees, providing N95 PPE, with exhalation venting (to keep from fogging eyeglasses) to employees, supervisory training, and having enough supervisors to monitor employee compliance.

Thank you for your comment.

The scope of chapter 296-820 WAC, Wildfire Smoke, applies to buildings and vehicles where the employer does not, or cannot ensure that windows, doors, and other openings are kept closed, and in transit vehicles where doors are opened frequently to allow passengers on and off. Transit employers must ensure that the protections in the wildfire smoke rule are implemented for all covered workers.

Opening bus doors allows outdoor air to flow inwards, which is desired when the outdoor air quality is good, as it reduces carbon dioxide (CO₂) concentrations in the bus (Querol2022), but when outdoor PM_{2.5} is elevated, it also results in higher particulate matter (PM) concentrations inside buses, even with filtered ventilation systems (Tsai2008, Zhu2010, Jain2017).

When ventilation systems are set to recirculate air through filtration systems to control PM concentrations, the CO₂ concentrations can become elevated, especially with passengers aboard, which causes concerns of driver fatigue or difficulty concentrating. Additionally, short-term exposures to PM_{2.5} has been shown to be associated with cognitive impairment (Ke2022).

Despite the challenges with implementing engineering controls with buses using built-in ventilation systems, alternative engineering controls can be used that control driver exposure to wildfire smoke without adding other concerns like elevated CO₂ exposures. One potential mitigation of both PM_{2.5} and CO₂ was shown to be effective by drawing outdoor air through a HEPA filter directly into the vehicle cab showing reductions in both PM_{2.5} and CO₂ (Tartakovsky2013).

L&I acknowledges the challenges, and the imminent need to protect transit operators, and other workers from the harmful short and long

	<p>term health effects of wildfire smoke, as well as ensuring that operators avoid symptoms that could impact their ability to operate the vehicle.</p> <p>This comment did not result in a change in the adopted rules language.</p>
<p>National Fire Protection Association (NFPA) provides the accepted codes and standards for wildland firefighting operations. The NFPA 1984 – “Standard on Respirators for Wildland Fire- Fighting Operations and Wildland Urban Interface Operations” specifies the minimum design, performance, testing, and certification requirements for wildland firefighting and wildland urban interface respirators. These include resistance to heat, storage integrity (ability to maintain fit after compressible storage), donning performance, breathing resistance and air purification component capacity. To date, no commercially available products have been certified compliant with NFPA 1984.</p> <p>It is our understanding that as written, all our wildland fire operations would be exempt from this rule which would include prescribed burning (this involves the intentional starting and controlling of fires on the landscape) to reduce fuels which is critical to fire prevention and forest resiliency. These operations typically involve wildland fire personnel, put these personnel in similar operating environments, and necessitate use of the same personal protective equipment.</p> <p>We request L&I clarification to include prescribed fire operations in the exemption list of this proposed rule.</p>	<p>Thank you for your comment.</p> <p>The unique hazards associated with wildland fire operations are covered in chapter 296-305 WAC, Firefighters. It is L&I’s interpretation that employees engaged in wildland fire operations are not covered under the scope of the wildfire smoke rule when chapter 296-305 WAC is applicable. To provide further clarity, L&I has added an exemption for workers performing prescribed burns under WAC 296-820-805(4).</p> <p>However, if wildland firefighters are performing work that is outside of the scope of chapter 296-305 WAC and outside of prescribed burn work, they would be covered by chapter 296-820 WAC rule during those tasks.</p> <p>Additional background and information will be provided in the wildfire smoke DOSH Directive.</p> <p>This comment resulted in a change in the adopted rules language.</p>
<p>Declining to exclude transit operators from this rule, or at least from portions of the rule, creates significant conflict.</p>	<p>Thank you for your comment.</p>

Are bus drivers to wear a respirator when smoke concentrations exceed 550 $\mu\text{g}/\text{m}^3$? This seems to create a larger hazard for the drivers, passengers, and the general public, which conflicts with WAC 296-842-13005; *“Evaluate user and workplace factors that might compromise respirator performance, reliability, or safety. Examples: ...high traffic areas and moving machinery.”*

The alternative – which it was indicated is the expectation during public hearing sessions – is that public transit will shut down when smoke concentrations reach these levels.

This would seem to create a disproportionate impact on certain vulnerable populations, and in some cases will force potential transit riders to walk to their destinations, often without respiratory protection. Many of these will be individuals with fixed and/or lower incomes, or the elderly, who are more susceptible to respiratory contaminants. It may also cause some sensitive populations to forgo receiving medical attention, due to lack of transportation, or to summon emergency response for relatively minor complaints.

Create an exemption to use of APR for employees who are driving (including transit drivers) or operating equipment. Forcing these employees to wear APR creates larger hazards to the driver and those around them due to reduced and obstructed lines of sight.

On behalf of the our association, one main concern is for the safety of transit staff in preventing collisions.

Wildfire smoke exposure is a recognized hazard to outdoor workers. WISHA mandates that L&I “[p]rovide for the promulgation of health and safety standards and the control of conditions in all workplaces concerning...harmful physical agents which shall set a standard which most adequately assures, to the extent feasible, on the basis of the best available evidence, that no employee will suffer material impairment of health or functional capacity.” As such, L&I’s role is to adopt rules that set standards to protect against occupational hazards that are feasible. L&I conducted a cost-benefit analysis, which is available on L&I’s website.

While some transit agencies have indicated that reduced schedules will likely be implemented during severe wildfire smoke events, L&I recognizes that there may be operators that will need to continue to operate at some capacity when the $\text{PM}_{2.5}$ is above 500.4 $\mu\text{g}/\text{m}^3$ (500 AQI) where respiratory protection is required. While the rule requires various respiratory protections at different thresholds, the employer will need to take into account additional considerations when selecting respiratory protection. For example, using a N95 respirator with exhalation valves, and ensuring adequate cab ventilation, could be ways to mitigate factors that could impede visibility.

There have been exposure controls demonstrated to reduce vehicle operator exposure to particulate matter such as supplementing built-in ventilation with in-cab HEPA filtration showing up to 99% reduction in PM concentrations (Tartakovsky2013). Transit agencies may implement engineering controls such as selecting vehicles, or making appropriate modifications such as isolated operator cabs and supplementary air filtration, that ensure that the operator is protected from wildfire smoke and is not covered under the scope of the rule. It is important that transit operators and other staff are protected from the harmful effects of wildfire smoke. This is even more imperative at extremely hazardous levels such as those above 500.4 $\mu\text{g}/\text{m}^3$, as data

Upon some research earlier this year, we realized there is no exception to the full-face respirator rule for bus drivers and law enforcement. Since bus drivers are regularly opening and closing their vehicle doors (and are thus not working in an enclosed, air filtered space), the draft rule would likely apply to them. A full-face respirator creates a significant impairment on peripheral vision and would be dangerous for a driver to wear because of the risk of vehicle collisions. Many cities and transit authorities have already stated that if smoke goes beyond 500 AQI that they will simply close their operations until air conditions improve, and without an exception for transit drivers for the full-face respirator rule all transit agencies would be forced to since it would be unsafe for bus drivers to drive while wearing full face respirators. Forcing the shutdown of transit services could have significant impacts on the rest of the community that depend on public transit to go to work, get food and other essential goods, or seek necessary services.

We think cities should have the option maintain public transit services, especially during critical times. As the rule is currently drafted, the only way that it would be possible to continue critical public transportation services at certain smoke levels is if L&I were to include an exception for bus drivers to the full-face mask requirement so that they could continue to safely drive their busses and transit vehicles.

We want to protect the safety of the drivers, but in this case, there would be a substitution of one risk (wildfire smoke) for another (potentially more dangerous) one, like vehicle accidents.

indicate humans may experience serious health effects from wildfire smoke at these concentrations. This includes increased risk of long-term health effects, as well as acute health effects such as triggering asthma attacks, or heart attacks. In addition, short-term PM_{2.5} exposure has been found to be associated with impaired executive function at PM_{2.5} levels far below these thresholds (Ke2022). It is especially important to implement controls that reduce exposure to wildfire smoke for transit operators to ensure that the safe operation of the vehicle is not impaired.

In WAC 296-820-840, it is noted that during emergency response, mandatory use of respirators is only required to the extent feasible. Emergency response as defined includes transportation services directly aiding firefighting; protecting public health and safety; or actively protecting, restoring, or maintaining the safe and reliable operation of critical infrastructure at risk.

This comment did not result in a change in the adopted rules language.

Under WAC 296-820-805 Purpose and scope, Sound Transit believes that public transit systems are enclosed vehicles with filtered air and requests public transit systems be included in the exception of the rule. The State of California’s wildfire smoke rule does not explicitly exclude public transit systems from their exception for *“enclosed vehicles in which the air is filtered by a cabin air filter and the employer ensures that windows, doors, and other openings are kept closed, except when it is necessary to open doors to enter or exit the vehicle.”* Buses and light rail vehicles are enclosed vehicles and equipped with a heating, ventilation, and air conditioning system with cabin air filters.

Please explain the rationale for explicitly excluding public transit systems from the enclosed vehicle exemption under WAC 296-820-805(2) – “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.”

Can DOSH provide evidence that demonstrates the difference in risk between public transit system operators (e.g., bus drivers) and operators of enclosed vehicles that are exempted from the proposed rule (e.g., delivery drivers who make frequent stops)?

Thank you for your comment.

Opening bus doors allows outdoor air to flow in, which is desired when the outdoor air quality is good, as it reduces carbon dioxide (CO₂) concentrations in the bus (Querol2022), but when outdoor PM_{2.5} is elevated, it also results in higher PM concentrations inside buses, even with filtered ventilation systems (Tsai2008, Zhu2010, Jain2017).

When ventilation systems are set to recirculate air through filtration systems to control PM concentrations, the CO₂ concentrations can become elevated, especially with passengers aboard, which causes concerns of driver fatigue or difficulty concentrating. Additionally, short-term exposures to PM_{2.5} has been shown to be associated with cognitive impairment (Ke2022).

While California’s wildfire smoke rule does not exclude public transit in the rule exemption, Oregon OSHA’s wildfire smoke rule excludes buses, light rails, and other enclosed vehicles from the enclosed vehicle exemption where doors and frequently opened to board and deboard passengers.

While transit operations are not exempt from the rule, operators and other transit employees may not need to wear respirators if the employer can demonstrate that exposure controls put in place will ensure PM_{2.5} the operator is exposed to cannot exceed the thresholds at which respirators are required. Studies show that where doors, windows, or other openings are frequently opened, indoor air quality is similar to outdoor air quality.

Despite the challenges with implementing engineering controls with buses using their built-in ventilation systems, alternative engineering controls can be used to control driver exposure to wildfire smoke

	<p>without increasing CO₂ exposures. One potential mitigation of both PM_{2.5} and CO₂ was shown to be effective by drawing outdoor air through a HEPA filter directly into the vehicle cab showing reductions in both PM_{2.5} and CO₂ (Tartakovsky2013).</p> <p>Delivery drivers fall under the scope of the wildfire smoke rule for the period of time when they are outside of the delivery vehicle. This means that employers of delivery drivers must implement the entirety of the wildfire smoke rule as long as the thresholds in the rules are met. Although delivery drivers may not fall under the scope of the rule when they are inside of the delivery vehicle, since their employer will have already implemented the protections for the time spent outside of the vehicle, employees will have access to all protections available in the rule to protect them from the hazard of wildfire smoke during the time when they are inside of the vehicle.</p> <p>This comment did not result in a change to the adopted rules language.</p>
<p>Please provide a definition for what “frequently” means as written in the proposed rule. As an example, if buses keep their windows closed and only open the doors for boarding and deboarding, what is the level of risk associated with “frequent” opening and closing of doors?</p>	<p>Thank you for your comment.</p> <p>L&I applies the common dictionary definition of the term “frequently” – which is regularly or often. Given this is a common word and there is no intent to apply a different definition, a definition does not need to be added to the rule.</p> <p>This comment did not result in a change to the adopted rules language.</p>
<p>Public transportation systems play an important role in the communities they service. While the preliminary cost benefit analysis report attempted to address reduction of inequities amongst certain marginalized workers, the same group of individuals DOSH is striving to protect are more likely to take public transit. By explicitly excluding public transit systems from the exemption, the proposed rule may have unintended consequences that will not only affect</p>	<p>Thank you for your comment.</p> <p>Wildfire smoke exposure is a recognized hazard to outdoor workers. WISHA mandates that L&I “[p]rovide for the promulgation of health and safety standards and the control of conditions in all workplaces concerning...harmful physical agents which shall set a standard which most adequately assures, to the extent feasible, on the basis of the best available evidence, that no employee will suffer material impairment</p>

<p>public transit agencies, but the communities public transit serves, and the workers DOSH is striving to protect.</p> <p>Has DOSH evaluated the potential impacts the proposed rule may have on public transit systems and the community? Please consider this example in El Paso, Texas, where reductions in public transportation amidst extreme temperatures impact marginalized communities two-fold.</p>	<p>of health or functional capacity.” As such, L&I’s role is to adopt rules that set standards to protect against occupational hazards that are feasible. L&I conducted a cost-benefit analysis, which is available on L&I’s website.</p> <p>This comment did not result in a change to the adopted rules language.</p>
<p>Public transit agencies may directly aid firefighting with emergency response by providing accessible transportation and evacuating the public in high-risk fire areas. DOSH’s permanent outdoor heat exposure rule explicitly exempts transportation from cool-down rest periods during emergency response operations. “Mandatory cool-down rest periods in Table 2 are not required during emergency response operations where rescue, evacuation, utilities, communications, transportation, law enforcement, and medical 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.”</p> <p>Additionally, the State of California considers public transportation as a resource during wildfire evacuation. Please consider including public transit systems as part of the emergency response. What sets public transit agencies in Washington apart from those in California?</p> <p>Can DOSH explain why a similar excerpt that includes public transportation for emergency response operations can or cannot be added in the proposed wildfire smoke rule?</p>	<p>Thank you for your comment.</p> <p>Studies show that where doors, windows, or other openings are frequently opened, indoor air quality is similar to outdoor air quality. The rule therefore excludes buses, light rails, and other enclosed vehicles from the enclosed vehicle exemption where doors and frequently opened to board and deboard passengers.</p> <p>While there is no exemption from the entirety of the rule for transit agencies, WAC 296-820-840 notes that during emergency response, mandatory use of respirators need only occur to the extent feasible. Emergency response is defined in the adopted rule and includes transportation services 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.</p> <p>This comment did not result in a change to the adopted rules language.</p>

<p>Inclusion of transit workers. We are pleased to see that the wildfire smoke rule acknowledges the needs of transit workers whose work environments can have high levels of smoke exposure during wildfires.</p>	<p>Thank you for your comment.</p> <p>This comment did not result in changes to the adopted rules language.</p>
<p>In the purpose and scope of this rule, it states enclosed vehicles in which the air is filtered by a properly maintained cabin air filter, and where the employer ensures that windows, doors, and other openings are kept closed, except for when it is necessary to briefly open doors to enter or exit, are exempt. Buses, light rail, and other enclosed vehicles used for transit systems where doors are frequently opened to board and deboard passengers are not included from the closed vehicle exemption. So my question is where L&I determined to include this exclusion from the exemption, the California Wildfire Smoke rule does not include this public transit vehicle exemption.</p> <p>Please define what "frequently" means with respect to transit door opening. And please share what information, sources, data, or studies, that L&I used to determine that door opening on transit vehicles is likely to be different than other enclosed vehicles, or likely generate a different exposure profile than other enclosed vehicles, which would justify specific exclusion from the closed vehicle exemption.</p>	<p>Thank you for your comment.</p> <p>Opening bus doors allows outdoor air to flow inwards, which is desired when the outdoor air quality is good, as it reduces carbon dioxide (CO₂) concentrations in the bus (Querol2022), but when outdoor PM_{2.5} is elevated, it results in higher particulate matter (PM) concentrations inside buses, even with filtered ventilation systems (Tsai2008, Zhu2010, Jain2017).</p> <p>While California's wildfire smoke rule does not exclude public transit in the rule exemption, Oregon OSHA's wildfire smoke rule excludes buses, light rails, and other enclosed vehicles from the enclosed vehicle exemption where doors and frequently opened to board and deboard passengers.</p> <p>While transit operations are not exempt from the rule, operators and other transit employees may not need to wear respirators if the employer can demonstrate that exposure controls put in place will ensure PM_{2.5} the operator is exposed to cannot exceed the thresholds at which respirators are required. Studies show that where doors, windows, or other openings are frequently opened, indoor air quality is similar to outdoor air quality.</p> <p>Additionally, short-term exposures to PM_{2.5} have been shown to be associated with cognitive impairment (Ke2022). When ventilation systems are set to recirculate air through filtration systems to control PM concentrations, the CO₂ concentrations can become elevated, especially with passengers aboard, which raises concerns of driver fatigue or difficulty concentrating.</p>

	<p>Stakeholders have indicated desire for neighboring states to align requirements where possible. Under 500 µg/m³, respirators are not required to be used and are to be made available for voluntary use. It has been communicated to L&I that many public transit systems will not be in regular operating status above 500 µg/m³ due to the imminent hazard to human health at high PM_{2.5} levels.</p> <p>Despite the challenges with implementing respiratory protection, or engineering controls with buses using their built-in ventilation systems, alternative engineering controls can be used to control driver exposure to wildfire smoke without increasing CO₂ exposures. One potential mitigation of both PM_{2.5} and CO₂ was shown to be effective by drawing outdoor air through a HEPA filter directly into the vehicle cab showing reductions in both PM_{2.5} and CO₂ (Tartakovsky2013).</p> <p>The term “frequently” is not defined in the rules, but rather refers to its customary definition: regularly or often.</p> <p>This comment did not result in a change to the adopted rules language.</p>
WAC 296-820-810 and 296-307-09810 Definitions	
<p>WAC 296-307-09810 (9) Wildfire smoke currently defines fine particulates such as PM_{2.5} as the primary pollutant in wildfire smoke. This statement should be revised to state “primary pollutant of public health concern.”</p>	<p>Thank you for your comment.</p> <p>The definition of wildfire smoke was changed to include the following sentence: Fine particulates such as PM_{2.5} are the primary pollutant of public and occupational health concern in wildfire smoke.</p> <p>This comment resulted in a change in the adopted rules language.</p>
<p>WAC 296-307-09810/296-820-810 Definitions Subsection (4) – The semicolon following “operations” is confusing to the meaning of the definition. It is not needed and should be deleted. The other semicolons are grammatically</p>	<p>Thank you for your comment.</p> <p>Grammar and punctuation issues were identified in this section.</p>

<p>acceptable, but they still make the definition hard to read. It would be best to rewrite this definition more clearly, possibly using subdivisions.</p> <p>Subsection (7) – The comma following “(EPA)” is not necessary and should be deleted.</p>	<p>This resulted in a change to the adopted rules language.</p>
<p style="text-align: center;">WAC 296-820-815 and 296-307-09815 Identification of Harmful Exposures</p>	
<p>In the new proposed rule, L&I requires monitoring air quality. The proposed air quality requirements are ambiguous and a cause for compliance concern for the following reasons:</p> <ol style="list-style-type: none"> a. How accurate is it? b. Is there a system where an alert would be sent if the air quality reached a risky threshold? c. How often does the air quality need to be checked? d. What location should be used to determine air quality; is this to be done on a jobsite specific basis? 	<p>Thank you for your comment.</p> <p>The adopted rule requires employers to determine the amount of PM_{2.5} to which employees are currently exposed.</p> <p>Employers have the option to use publicly available regulatory monitors or have the option to purchase their own monitors to determine the current PM_{2.5} at their worksites. EPA has data on the accuracy and precision of their monitoring network, available here: https://www.epa.gov/outdoor-air-quality-data Should an employer choose to have monitoring equipment at their worksite(s), the adopted rule has performance standards for monitors that can be purchased, which can be found in WACs 296-820-845 and 296-307-09845.</p> <p>There is not a statewide alert system for wildfire smoke events, but different jurisdictions in the state may send alerts depending on the air quality. Various web and phone applications such as EPA’s https://www.enviroflash.info/ may be used to send alerts based on user preference.</p> <p>There is no requirement of the frequency with which employers will need to check the air quality. Employers have the discretion to determine how often they will need to check the air quality in order to comply with the rule. PM_{2.5} data are refreshed every hour. Employers may use the PM_{2.5} forecast provided by the Department of Ecology for</p>

	<p>planning and preparation. The forecasted conditions can help inform employers in determining how often they would need to check the current PM_{2.5}.</p> <p>Employers must determine a monitoring plan for the air quality at each of their jobsites. Employers may use the nearest monitoring station to the jobsite to comply with the rule. Jobsites that are close by to one another may use the same monitoring site, and may check the air quality once to cover both jobsites.</p> <p>This comment did not result in a change to the adopted rules language.</p>
<p>The rule does not allow the use of time-weighted average concentrations, as are used for other airborne contaminants, and which would significantly ease the burden of implementation while still protecting employees.</p> <p>If exposure limits are established for smoke, they must rely on a time-weighted average, rather than discrete concentrations, in the same manner established for virtually every airborne contaminant. The explanation that TWAs are not appropriate because smoke concentrations change is not convincing, because concentrations of virtually all airborne contaminants change, but they remain regulated based on TWA.</p> <p>During the public hearing, it was stated that TWA cannot be used because most employers cannot perform the required monitoring, and because levels fluctuate, so by the time someone knows they've been exposed, the exposure is over. This response is not convincing.</p> <ul style="list-style-type: none"> •The rule allows but does not require onsite monitoring. In most cases, employers are not going to use direct 	<p>Thank you for your comment.</p> <p>Many other occupational safety and health standards describe exposure limits by averaging the exposure to the harmful contaminant over an eight-hour working shift, or the eight-hour time weighted average (TWA₈). This is an excellent way of categorizing exposures when the employer has control over the exposure. If the work is done in the same way, the exposure will remain relatively constant from day to day, ensuring that the exposure controls and protective equipment will be adequate to keep the worker safe. These also require the employer to conduct a new exposure assessment anytime the nature of the exposure changes.</p> <p>When applied to exposures from wildfire smoke, eight-hour time weighted averages would not be an appropriate means of determining necessary exposure controls. Wildfire smoke concentrations can change rapidly based on conditions that employers cannot control or predict. If eight-hour time weighted averages were used, the results would not be known until at least the end of the shift. Eight-hour TWAs cannot provide relevant information during rapidly changing conditions; once the hazard is determined, the information will no longer be actionable, and exposures would have changed requiring</p>

<p>monitoring anyway, they will rely on the nearest monitor to the worksite, which may be several miles distant. This means that the discrete levels being relied on do not necessarily represent site conditions anyway, so the “levels fluctuate” argument has little merit.</p> <ul style="list-style-type: none"> •Additionally, concentrations of all airborne contaminants fluctuate, but they have been regulated based on TWA for decades. This is rarely based on continuous monitoring, but on exposure assessments done at a single point in time. •Employers do not need to perform their own monitoring. When conditions are suspect, referencing the nearest available monitor through the work shift can allow a simple calculation of a running TWA, with protections established based on those values. Along with the required mechanisms for employees to report worsening conditions, this will allow implementation of protections without endangering workers, and keeping them below a TWA level for the shift. 	<p>employers to perform another exposure assessment. Similarly, real time projections of an eight-hour TWA underestimate exposures at the beginning of the shift (for example, the first hour of PM_{2.5} data would be averaged over eight hours) which retains the issue where employee exposures are not accurately characterized until the end of the shift by which point they are no longer relevant. Due to these reasons, L&I rejected the use of an eight-hour TWA. However, other averaging times were assessed.</p> <p>L&I, after considering the nature of the exposure, feasibility of monitoring and controlling exposures, the wildfire smoke regulations from California and Oregon, and stakeholder input and comments; elected to base the requirements in the adopted rule on one-hour averages of PM_{2.5} data, with stepwise escalating protective requirements. This approach maintains the benefits of a time weighted average of exposure measurements, while still maintaining the ability to respond to changing conditions, and respond to changing conditions by implementing protective measures in a timely manner. This also avoids the costs and feasibility issues associated with daily personal air sampling that an eight-hour TWA would require, and allows the use of publicly available exposure data.</p> <p>The adopted rule allows employers to use exposure data from the nearest monitoring site as a safe harbor for feasibility reasons.</p> <p>This comment did not result in a change to the adopted rules language.</p>
<p>296-820-815(3): This section should refer to the mandatory provisions of Appendix B.</p>	<p>Thank you for your comment.</p> <p>The applicable content of appendix B in the proposed rules was moved into the rule text under WAC 296-820-845 and 296-307-09845 of the adopted rules.</p> <p>This comment resulted in a change to the adopted rules language.</p>

<p>Clarify whether each of these levels must also be exceeded for two consecutive readings to trigger the associated requirements, or if they are one-time thresholds.</p>	<p>Thank you for your comment.</p> <p>With the exception of notifying employees when current PM_{2.5} readings are 20.5 µg/m³ (AQI 69) or more, which requires two consecutive readings, every requirement is a one-time threshold.</p> <p>This comment did not result in a change to the adopted rules language.</p>
<p>What are acceptable methods for monitoring employees, particularly in large or distributed worksites like agriculture or road construction, or in situations where employees are working in multiple separate locations?</p>	<p>Thank you for your comment.</p> <p>There are multiple means of monitoring workers including, but not limited to:</p> <ul style="list-style-type: none"> • Checking in with employees when providing updates on the air quality, • Checking in with employees when providing supplies or collecting product, • Checking in with employees before or after breaks or lunch, • Texting or calling employees, • Dropping by the employee’s work area, and • Developing recognizable hand gestures to communicate health status at a distance. <p>This comment did not result in a change in the adopted rules language.</p>
<p>Can we please include air monitoring equipment sourcing links and contacts that stay as a permanent known site tool for community and business usage.</p> <p>The reason for including sourcing is that homes and individuals might need to monitor personally on top of what businesses communicate. If all are using the same equipment, with knowledge from your site on protocol and equipment, then the start point is better understood.</p>	<p>Thank you for your comment.</p> <p>The adopted rules include the criteria and recommendations for selecting direct reading particulate sensors that can assist employers, employees, and community members in selecting sensors. Low-cost particulate monitors are an area of active development, with many available options currently available. L&I will share information as it becomes available where possible.</p> <p>This comment did not result in a change to the adopted rules language.</p>

The proposed rule’s language on the time period for employer determination of employee PM_{2.5} exposure leaves a significant enforcement gap. The rule states that covered employers must determine employee exposure to PM_{2.5} “periodically as needed.”

This formulation permits employers to check PM_{2.5} levels infrequently. “As needed” provides no guidance on how employers should know to check AQI, nor when they must, despite other language stating that employers must take actions beginning at AQI 69 (PM_{2.5} of 20.5 µg/m³).

This issue is critical to the successful implementation of the rules. Without clear guidance on when measurements must be taken, employers will likely wait until exposure is obvious before they provide PPE, leaving workers exposed.

We ask the Division to make the following edits. Original language is indicated by absence of underlining, edits are underlined.

WAC 296-307-09815 Identification of harmful exposures. The employer must determine employee exposure to PM_{2.5} for worksites covered by WAC 296-307-09805 through 296-307-09860 on any days in which AQI rises above 100 anywhere in the State of Washington, as measured by any of the below sites and organizations. On such days, the employer must take or determine PM_{2.5} levels at least every 2 hours while employees are on site. If any reading finds AQI above 150, then readings must be taken each hour for the remainder of that work day until all employees are off site.

Thank you for your comment.

The rule does not specify the frequency with which employers need to determine the air quality.

Employers have the discretion to determine how often they will need to check the air quality in order to comply with the rule. As wildfire smoke exposures are unpredictable, setting a frequency in rule was not feasible at this time.

Employers are required to take action when PM_{2.5} is at or above 20.5 µg/m³ (AQI 69), including identification of harmful exposures. If employees are not on site or do not have work activities in locations that fall under the scope of the rule, employers are not required to identify harmful exposures.

This comment did not result in a change to the adopted rules language.

The proposed rules indicate various sources for employers to find local PM_{2.5} levels, but these sources do not take their measurements from the same set of locations, nor do any of the services provide coverage from monitoring stations at a sufficiently granular level across the state to generate accurate worksite readings for all employers. PM_{2.5} and AQI measurements can differ dramatically mile to mile or worksite to worksite even in the same general geographic area.

There must be a clear mandate for worksite-specific measurement that will accurately capture workers' exposure. Additional requirements for site-specific measurements should not significantly increase implementation costs for employers. Commercial air quality monitors cost between \$40 and \$300 and are reusable, and the suggested changes below would require only one monitor per work location on days when the AQI is above a relatively high threshold.

Suggested change is underlined.

WAC 296-307-09815 Identification of harmful exposures.

...

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 296-307-09805 through 296-307-09860 Wildfire Smoke except on days in which AQI readings in the state rise above 150, in which case employers must follow (3) below:

...

Thank you for your comment.

Federal and state regulatory monitors have stringent requirements for accuracy and precision, are regularly calibrated, and provide reliable information regarding the level of PM_{2.5} in the area being measured. L&I recognizes that many workplaces will be located some distance from the monitor, so the readings may not directly represent what is experienced at the worksite; that said, wildfire smoke tends to affect large areas at a time. While the data from regulatory monitors may not exactly match worksite conditions, they do reflect general trends in the level of smoke, and are appropriate to indicate the controls needed.

While worksite identification of PM_{2.5} could potentially provide more localized information to employers, L&I elected to allow the use of regulatory monitors as a safe harbor to address feasibility concerns of requiring widespread adoption and use of commercially available sensors. The adopted rules do provide employers the option to conduct their own monitoring using commercially available monitors if they would like more localized information, but employers can also opt to reference the closest regulatory monitor instead.

This comment did not result in a change to the adopted rules language.

<p>(3) Measure current PM_{2.5} levels at the work location in accordance with WAC 296-307-09845 Measuring PM_{2.5} levels at the worksite.</p>	
<p>The proposed rule states that an employer must determine employee exposure for worksites while using approved sites and AQI monitoring systems. While the flexibility and several approved air quality tools are appreciated, we do ask that the Department reevaluate this section to add a notification system to assist small businesses in compliance.</p> <p>While the rule is specific to “wildfire smoke”, the trigger point for controls no longer seems to be tied to wildfire smoke. AQI can be over a 69 on a sunny day without any wildfire danger near.</p> <p>We’re concerned that the lack of notification system to employers when the Department sees a risk and the lack of transparency on what the rule tackles will lead to accidental noncompliance. We’d really like to see clear and defined instances when a small business needs to be monitoring AQI.</p>	<p>Thank you for your comment.</p> <p>Employers can choose from the list of approved data sources to determine PM_{2.5} at their worksite. EPA’s enviroflash.info provides an email list that provides notifications when the PM_{2.5} is forecast to exceed the selected thresholds.</p> <p>PM_{2.5} is the primary contaminant of public health concern in wildfire smoke. While PM_{2.5} may also be generated by other sources such as agricultural dust and vehicle traffic, these sources of dust consist primarily of larger particles such as PM₁₀. The intent of the rule is to apply to wildfire smoke exposures. Based on currently available historical data, the PM_{2.5} thresholds in the rule will rarely be reached unless wildfire smoke is a contributing factor. L&I will not cite employers unless the PM_{2.5} includes emissions from wildfires. Enforcement guidance will be provided to DOSH Compliance Staff in the form of a DOSH Directive.</p> <p>This comment did not result in a change in the adopted rules language.</p>
<p>WAC 296-307-09815 Identification of harmful exposures covers methods employers may use to determine employee exposure to PM_{2.5} at worksites.</p> <p>Critically, it includes options to utilize existing air quality monitoring data obtainable via the existing network of regulatory air quality monitoring stations through websites such as WA Department of Ecology, EPA AirNOW, and local clean air agency websites.</p>	<p>Thank you for your comment.</p> <p>In determining the requirements for the rules, L&I considered the wildfire smoke regulations from California and Oregon, and the current best evidence on wildfire smoke exposure, in addition to stakeholder input and comments. L&I must also determine that the rules are least burdensome alternative that still achieves the goals and objectives of WISHA. We recognize some workplaces may be some distance from regulatory monitors and as such, the readings may not directly represent what is experienced at the worksite. However, requiring direct reading monitors at every worksite is not feasible. In</p>

However, the rule must acknowledge existing gaps and limitations within the regulatory air quality monitoring network. These sources do not adequately provide accurate ambient air quality information for all geographic areas across the state. And inadequate information can result in inaccurate reporting of ambient air quality conditions. For example, during the 2022 Bolt Creek fire, the nearest regulatory monitoring site to the City of Skykomish reported good to moderate air quality. However, only one regulatory monitoring site is available for the entire Cascades foothills air quality reporting region of King County.

That monitoring station is in the City of North Bend, several miles and mountain valleys removed from the City of Skykomish. Using information from this site, air quality websites reported good to moderate for the City, despite Skykomish being immediately adjacent to the almost 15,000-acre fire. The result was inaccurate air quality monitoring data being incorrectly extrapolated to apply to a geographic area far removed from where the air quality data was obtained.

This rulemaking must address the gap in the availability of accurate air quality monitoring data from reputable air quality monitoring data sources to avoid underestimating employee exposure to PM_{2.5} at worksites. Alternatively, it should increase requirements for employers to have the means of conducting their own air quality monitoring at the physical site where their employees are present.

addition, worksites with a regulatory monitor nearby would likely receive more accurate data from the closest regulatory monitor rather than purchasing and using a commercially available air quality monitor.

This comment did not result in a change to the adopted rules language.

<p>Require an accountable air quality monitoring system at each work site. Each job site needs a system that is reliable, publicly visible, independently verifiable and enforceable.</p> <p>Workers need to be able to see the system at work in real-time. If this is not possible on a site-by-site basis, a clear and accountable system for regional consistency is necessary.</p>	
<p>Clarity for transportation sector employers where commercial vehicles are dispatched to service areas across large geographic areas.</p> <p>Transportation sector employers often dispatch many workers in vehicles across significant geographic areas, and the solid waste industry is no different. Employers need clear direction on air quality monitoring for workers out in the field. Monitoring the AQI for dozens or more workers in moving vehicles at every point along a collection route is unfeasible.</p> <p>The rule should provide clear, workable direction to transportation sector employers on where and when AQI can be measured to determine worker exposure.</p>	<p>Thank you for your comment.</p> <p>The adopted rule provides various resources for checking PM_{2.5} levels.</p> <p>Employers have the option to use publicly available regulatory monitors, or have the option to purchase their own monitors to determine the current PM_{2.5} at their worksites. Employers with workers in remote or distributed worksites have multiple options to assist with implementation, such as:</p> <ul style="list-style-type: none"> • Using publicly available PM_{2.5} forecasts to predict the exposures of workers at distributed worksites. • Signing up for air quality notifications and alerts. Various web and phone applications such as EPA’s https://www.enviroflash.info/ may be used to send alerts based on user preference. • Providing designated workers with the knowledge, training, and responsibility to monitor the PM_{2.5} with direct reading instruments. <p>This comment did not result in a change to the adopted rules language.</p>
<p>Department should work closely with stakeholders to determine appropriate threshold(s) for the final rule.</p>	<p>Thank you for your comment.</p>

	<p>L&I worked with stakeholders on the development of the proposed rules. Upon filing of the proposed rules, accordance with Washington’s Administrative Procedure Act, any interested stakeholder could submit written comments and/or testify at a public hearing. In determining the final rule language, L&I considered all written and oral comments.</p> <p>This comment did not result in a change in the adopted rules language.</p>
<p>The breakpoints in the proposed rule differ from those used by the EPA AQI. For example, the first level in the proposed rule is a PM_{2.5} of 0.0 to 20.5 µg/m³ (AQI 0 to 69), while the EPA's AQI is 0.0 to 12.0 µg/m³ (AQI 0 to 50). Can you explain why this different chart was used for this proposed rule?</p>	<p>Thank you for your comment.</p> <p>The adopted rule thresholds are based upon ambient PM_{2.5}, which is the primary pollutant of public health concern in wildfire smoke. Conversions to the AQI are provided in the rule to make it easier for employers to comply.</p> <p>There are several reasons why L&I based the wildfire smoke rule on PM_{2.5} rather than AQI:</p> <ul style="list-style-type: none"> • Data indicates that all individuals may experience health effects from PM_{2.5} at levels below what the current AQI breakpoints currently indicate; indeed, there is no concentration of PM_{2.5} that is known to be safe, • The AQI is not designed for use in the occupational environment, • The AQI is not designed as a regulatory tool, • AQI value and its associated health messages may specifically underestimate or inaccurately represent actual health risks to specific individuals and population subgroups, including outdoor workers (Cromar 2020), • Basing the rule on mass concentration of PM_{2.5} instead of the AQI avoids the confusion arising from the composite nature of the AQI.

	<p>This comment did not result in a change in the adopted rules language.</p>
<p>Please explain the framework for establishing the PM_{2.5} threshold levels. The Environmental Protection Agency’s (EPA) air quality breakpoints are based on a 24-hour average PM_{2.5} concentration meant to protect public health and not for evaluating shorter term worker exposures (e.g., 8-to-10-hour work periods).</p> <p>Can DOSH demonstrate an established dose/response relationship for a worker exposure to wildfire smoke over an eight-hour time-weighted average?</p> <p>What was the reason for establishing thresholds based on the EPA’s PM_{2.5} threshold levels?</p> <p>Case precedent requires that the Occupational Safety and Health Administration (OSHA) “not blindly adopt [other agency’s standards] but rather apply its own independent review to ensure they are a good fit” before establishing occupational health standards.</p>	<p>Thank you for your comment.</p> <p>The adopted rule thresholds are based upon one-hour averages of PM_{2.5} data, which is the primary pollutant of occupational and public health concern in wildfire smoke. The rule does permit employers to use the NowCast AQI for PM_{2.5}, and where possible, the thresholds in the rule were set at an AQI breakpoint to make it easier for employers to comply. The 24-hour average AQI is not an accepted method of determining exposure for the purposes of this rule.</p> <p>There are several reasons why L&I based the wildfire smoke rule on PM_{2.5} rather than AQI:</p> <ul style="list-style-type: none"> • Data indicates that all individuals may experience health effects from PM_{2.5} at levels below what the current AQI breakpoints currently indicate; there is no concentration of PM_{2.5} that is known to be safe, • The AQI is not designed for use in the occupational environment, • The AQI was designed to provide public health information, and to assess clean air standards, not as an occupational regulatory tool, • AQI value and its associated health messages may underestimate or inaccurately represent actual health risks to specific individuals and population subgroups, including outdoor workers (Cromar 2020), • The AQI includes information on multiple pollutants, not just PM_{2.5}.

	<p>L&I has reviewed scientific information that establishes a dose-response relationship between PM_{2.5} and various health effects. In determining the exposure thresholds and other requirements for the rules, L&I considered the wildfire smoke regulations from California and Oregon, and the current best evidence on wildfire smoke exposure, in addition to stakeholder input and comments. L&I must also determine that the rules are least burdensome alternative that still achieves the goals and objectives of WISHA. Additional information is detailed in the cost-benefit analysis, which is available on the L&I website.</p> <p>This comment did not result in a change to the adopted rules language.</p>
<p>I also think it's very significant that the WSLC (and others in labor advocacy and public health) point to the distinctive conditions that make some workers especially at-risk: WHEREAS, the Environmental Protection Agency (EPA) has identified socially vulnerable populations such as farmworkers; and WHEREAS, the Washington Department of Health has issued guidelines for children and youth activities for air quality that notes all youth under 18 are considered a sensitive group and begins mitigation strategies when AQI reaches 51; and WHEREAS, particulates from wildfire smoke can be hazardous to workers' health, especially those who are prone to asthma, have chronic obstructive pulmonary disease (COPD), individuals who are pregnant, or those with heart disease.</p>	<p>Thank you for your comment.</p> <p>L&I recognizes that outdoor workers are exposed to higher levels of particulate air pollution, including wildfire smoke, compared to the general workforce due to increased time outdoors, and higher respiration rates.</p> <p>This comment did not result in a change to the adopted rules language.</p>
<p>The proposed trigger level and AQI of 69 is extreme, unfounded, and is a target AQI number that often cannot be met on a clear day when there is no presence of smoke.</p> <p>As an example, the last week of June 2021 hit record temperatures exceeding 100 degrees, the Department of</p>	<p>Thank you for your comment.</p> <p>PM_{2.5} is the primary contaminant of public health concern in wildfire smoke. PM_{2.5} may also generated by other sources of pollution, such as agricultural dust and vehicle traffic. While the scope of the rule could be interpreted to apply to PM_{2.5} exposures beyond those</p>

Ecology’s AQI map tool recorded most of the state was well above the AQI level of 69 without having wildfire smoke exposure.

As defined by the Washington state Department of Ecology, appropriate AQI for most groups is from 0-150. When levels reach 151, the Department defines those as unhealthy.

LNI’s mission is to protect workplace safety and current personal exposure limits were designed for healthy adults of working age. Expanding the scope of the trigger level to protect sensitive groups as defined by a public health agency goes beyond LNI’s jurisdiction.

If LNI does decide to align a trigger point with other agencies, then they should consider the level to be set when the air reaches the unhealthy level that has already been defined as an AQI level of 151.

Additionally, the state of California, who has seen an alarming increase in fires over the last several decades, has adopted similar rules to the proposal before us and has adopted a trigger AQI of 151. Alignment with neighbors would be reasonable and logical.

generated by wildfire smoke, in practice, the PM_{2.5} thresholds in the rule will rarely be reached unless there is wildfire smoke present. L&I will not cite employers unless the PM_{2.5} includes emissions from wildfires. Guidance will be provided to DOSH Compliance Staff in the form of a DOSH Directive.

The adopted rule thresholds are based upon ambient PM_{2.5}, which is the primary pollutant of public health concern in wildfire smoke. Conversions to the AQI are provided in the rule to make it easier for employers to comply.

There are several reasons why L&I based the wildfire smoke rule on PM_{2.5} rather than AQI:

- Data indicates that all individuals may experience health effects from PM_{2.5} at levels below what the current AQI breakpoints currently indicate; indeed, there is no concentration of PM_{2.5} that is known to be safe,
- The AQI is not designed for use in the occupational environment,
- The AQI is not designed as a regulatory tool,
- AQI value and its associated health messages may specifically underestimate or inaccurately represent actual health risks to specific individuals and population subgroups, including outdoor workers (Cromar 2020),
- Basing the rule on mass concentration of PM_{2.5} instead of the AQI avoids the confusion arising from the composite nature of the AQI.

Additionally, outdoor workers are uniquely exposed to higher levels of particulate air pollution, including wildfire smoke, compared to the

	<p>general public and are regarded by Washington State and EPA to be a “sensitive group” with respect to particulate air pollution.</p> <p>L&I has provided detailed information regarding its considerations of threshold selection in the cost-benefit analysis, which is available on L&I’s website.</p> <p>This comment did not result in a change in the adopted rules language.</p>
<p>The proposed rule triggers when workers are exposed to PM_{2.5} of 20.5µg/m³ or a score of 69 out of 500 on the federal Air Quality Index (69). An AQI score between 50 and 100 means that “air quality is acceptable” though “pollution in this range may pose a moderate health concern for a very small number of individuals (emphasis added).” When AQI values are between 101 and 150, members of sensitive groups may experience health effects, but the general public is unlikely to be affected. California’s wildfire smoke rule triggers at a 151 out of 500 AQI score.</p> <p>At scores of 151-200, “everyone may begin to experience health effects” and “sensitive groups may experience more serious health effects.”</p> <p>Many organizations use similar thresholds to protect athletes and others that engage in outdoor physical activities. For example, the National Collegiate Athletic Association (NCAA) finds that at 150 AQI “outdoor activities should be shortened” and “sensitive athletes should be moved indoors. Similarly, the American Lung Association finds that “unusually sensitive individuals” should limit outdoor exertion under 100 AQI and “everyone else” should limit prolonged outdoor exertion at</p>	<p>Thank you for your comment.</p> <p>The adopted rule thresholds are based upon ambient PM_{2.5}, which is the primary pollutant of public health concern in wildfire smoke. Conversions to the AQI are provided in the rule to make it easier for employers to comply.</p> <p>There are several reasons why L&I based the wildfire smoke rule on PM_{2.5} rather than AQI:</p> <ul style="list-style-type: none"> • Data indicates that all individuals may experience health effects from PM_{2.5} at levels below what the current AQI breakpoints currently indicate; indeed, there is no concentration of PM_{2.5} that is known to be safe, • The AQI is not designed for use in the occupational environment, • The AQI is not designed as a regulatory tool, • AQI value and its associated health messages may specifically underestimate or inaccurately represent actual health risks to specific individuals and population subgroups, including outdoor workers (Cromar 2020), • Basing the rule on mass concentration of PM_{2.5} instead of the AQI avoids the confusion arising from the composite nature of the AQI.

<p>over 150 AQI. The 151 AQI threshold is backed by science and aligns with California and Oregon, allowing companies to use a consistent approach along the West Coast. Workers in sensitive groups should always have the option to wear respiratory protection at lower AQI.</p>	<p>Additionally, outdoor workers are uniquely exposed to higher levels of particulate air pollution, including wildfire smoke, compared to the general public and are regarded by Washington State and EPA to be a “sensitive group” with respect to particulate air pollution.</p> <p>L&I has provided detailed information regarding its considerations of threshold selection in the cost-benefit analysis, which is available on L&I’s website.</p> <p>This comment did not result in a change in the adopted rules language.</p>
<p>WAC 296-820-820 and 296-307-09820 Hazard Communication</p>	
<p>WAC 296-307-09820/296-820-820 Hazard communication</p> <p>This proposed section is grammatically confusing and incorrect in several places. For example, subsections (1), (2), and (3) should be grammatically parallel to each other because they form a list that completes the thoughts of the main sentence, “The system shall include effective procedures for:”</p> <p>The first words of (1) and (2) are the gerunds “informing” and “enabling,” yet subsection (3) begins with “A wildfire smoke response plan must...” If subsection (3) is supposed to be included in this list, it also needs to begin with a gerund.</p> <p>If subsection (3) is not supposed to be included in this list, everything in this section needs to be renumbered to allow subsection (3) to stand on its own.</p> <p>Subsection (1) – The comma after “thresholds” is unnecessary and should be deleted.</p>	<p>Thank you for your comment.</p> <p>L&I reviewed and considered all feedback submitted related to grammar, punctuation, style, etc., and a number of updates were made to the adopted rule based on those recommendations.</p> <p>This comment resulted in a change to the adopted rules language.</p>

<p>Subsection (3)(f) – The comma after “smoke” is unnecessary and should be deleted.</p> <p>Subsection (3)(h) – We suggest moving “the risks of wearing a respirator without a medical evaluation” to its own subdivision (i) and then changing the current (i) to (j).</p>	
<p>This rule includes multiple notification requirements, including some at low levels that will be reached when there are no wildfires occurring. This will lead to employees ignoring the notifications.</p>	<p>Thank you for your comment.</p> <p>PM_{2.5} is the primary contaminant of public health concern in wildfire smoke. PM_{2.5} may also generated by other sources of pollution, such as agricultural dust and vehicle traffic. The intent of the rule is to apply to PM_{2.5} exposures from wildfire smoke, and data shows that the, the PM_{2.5} thresholds in the rule will rarely be reached unless there is wildfire smoke present especially as the concentrations increase to the levels where employers must implement exposure controls and provide respirators. Where information supports that the exposure are from by other sources of pollution, such as agricultural dust and vehicle traffic, L&I will not take enforcement action.</p> <p>Notifying employees of their exposures is required in order to ensure that employees are aware of when they need to take action to protect themselves.</p> <p>While many employees will have the ability to determine the air quality using their own devices (such as a computer or cell phone), others work in locations without access to the internet or are otherwise dependent upon their employers for notifications regarding the air quality.</p> <p>This comment did not result in a change to the adopted rules language.</p>
<p>This rule continues to have too many separate notifications, particularly at lower PM_{2.5} concentrations</p>	<p>Thank you for your comment.</p>

<p>when little action is required. This will almost certainly lead to employees ignoring these messages. Recommend restricting notification requirements to only those points when employees are required to take action, for example:</p> <p>Eliminate the notification requirement at $20.5 \mu\text{g}/\text{m}^3$. This falls below the “Unhealthy for Sensitive Groups” level, and will eliminate most notifications – including many of those connected to non-smoke $\text{PM}_{2.5}$ concentrations. No action is required by either employers or employees at this concentration, so the notification provides no protection to typical employees. Under this rule, employees will already be informed how to obtain information on air quality, so those who are sensitive to smoke at low concentrations will have the ability to obtain data necessary to ensure their protection. That information should take the place of notification at these concentrations.</p> <ul style="list-style-type: none"> •Notify employees at $35.5 \mu\text{g}/\text{cm}^3$ that N95s are available for their use •Notify employees at $250.5 \mu\text{g}/\text{cm}^3$ that they must take an N95 •Notify employees at $500.4 \mu\text{g}/\text{cm}^3$ that N95/P100s are required, or that outdoor work is being curtailed. •Notify employees at $555 \mu\text{g}/\text{cm}^3$ that APRs are required, or that outdoor work is being curtailed. •At the point where an employer elects to curtail outdoor work, they should not be required to issue further notifications. 	<p>$\text{PM}_{2.5}$ is the primary contaminant of public health concern in wildfire smoke. $\text{PM}_{2.5}$ may also be generated by other sources of pollution, such as agricultural dust and vehicle traffic. The intent of the rule is to apply to $\text{PM}_{2.5}$ exposures from wildfire smoke. Data shows that the $\text{PM}_{2.5}$ thresholds in the rule will rarely be reached unless there is wildfire smoke present, especially as the concentrations increase to the levels where employers must implement exposure controls and provide respirators. Where information supports that the exposures are due to other sources of pollution, such as agricultural dust and vehicle traffic, L&I will not take enforcement action.</p> <p>Notifying employees of their exposures is required in order to ensure that employees are aware of when they need to take action to protect themselves.</p> <p>While many employees will have the ability to determine the air quality using their own devices (such as a computer or cell phone), others work in locations without access to the internet or are otherwise dependent upon their employers for notifications regarding the air quality.</p> <p>This comment did not result in a change to the adopted rules language.</p>
<p>Are notifications required every time a threshold is exceeded? For example, the early morning concentration</p>	<p>Thank you for your comment.</p>

<p>exceeds 35.5 $\mu\text{g}/\text{m}^3$, and notification is provided at the start of the workday. Conditions improve by noon, and concentrations fall below 35.5 $\mu\text{g}/\text{cm}^3$. An afternoon wind shift causes concentrations to again rise above 35.5 $\mu\text{g}/\text{cm}^3$. Is a second, identical notification required during the same shift?</p>	<p>Notifications are required when a concentration of PM_{2.5} threshold occurs. If a decrease in the concentration occurs, an employer may notify their employees of that drop in the threshold. Notifications would only be required once per shift, provided protections have not been removed in the intervening time period. Employers may provide additional notifications to employees alerting them to what the hazard is and what PPE is available to protect themselves.</p> <p>This comment did not result in a change to the adopted rules language.</p>
<p>Use AQI instead of PM_{2.5} concentration as the main indicator for action thresholds and hazard communication.</p> <p>The AQI is a simpler, whole, unit less number, and the ranges that correspond to the different levels of concern are easier to remember than the corresponding levels of PM_{2.5}.</p> <p>Furthermore, workers are able to easily access local AQI information through common weather apps on cell phones, while finding information on current PM_{2.5} concentrations requires greater knowledge about lesser-known sources of environmental data. Finding this type of information may pose a challenge for workers with limited command of English and/or limited levels of literacy. Such is the case for many farmworkers, at least 63 percent of whom report a language other than English as their primary language, and whose average level of formal education is ninth grade.</p> <p>While it is advisable to continue stating in the regulatory language the PM_{2.5} concentrations that correspond to the different AQI thresholds (particularly for employers who choose to employ PM_{2.5} monitors), an indicator that is easier to remember and ascertain makes it easier for</p>	<p>Thank you for your comment.</p> <p>The adopted rule thresholds are based upon ambient PM_{2.5}, which is the primary pollutant of public health concern in wildfire smoke. The AQI for PM_{2.5} is a unitless index used by the EPA for communicating air quality based on national ambient air quality standards to the public as a whole and was not designed as a regulatory tool. L&I believes that it is more appropriate for the thresholds in rules to be based on the concentrations of PM_{2.5} to make it easier for employers and employees.</p> <p>In addition, EPA establishes the breakpoints for the levels in the index (moderate, unhealthy for sensitive groups, unhealthy, etc.). L&I, in determining the feasible requirements for the rule at different thresholds of PM_{2.5} concentrations, considered the best available evidence, which included a review of the EPA’s rationale for setting each AQI breakpoint. L&I determined the best available evidence supported the setting some of the thresholds in the adopted rules at levels that did not align with breakpoints in the AQI index. As such, basing the rule on mass concentration of PM_{2.5} instead of the AQI avoids the confusion arising from the composite nature of the AQI with set breakpoints that do not align with the rule requirements.</p>

<p>workers to determine whether they are receiving the protections mandated in the rule. This is critical for workers to be able to protect themselves and advocate for their rights in the workplace.</p>	<p>While the thresholds in rules are based on PM_{2.5} concentration level, the rules do include a conversion to the corresponding AQI levels and allow employers and employees to use the NowCast AQI for compliance and convenience. L&I believes this will enable employees with limited English proficiency or limited levels of literacy to understand their rights.</p> <p>As part of this rulemaking, L&I is developing outreach materials in multiple languages and considering different levels of literacy that can be used to communicate the requirements of the rule to both employers and employees.</p> <p>This comment did not result in a change in the adopted rules language.</p>
<p>Require that workers be informed of the current AQI when the AQI is 51 (PM_{2.5} concentration of 12.1 µg/m³) or more.</p> <p>WAC 296-307-09820 states that: “For any worksite covered by WAC 296-307-09805 through 296-307-09860 Wildfire smoke, the employer must establish and implement a system for communicating wildfire smoke hazards in a form readily understandable by all affected employees... The system shall include effective procedures for: (1) Informing employees when the current PM_{2.5} as identified in WAC 296-307-09815 Identification of harmful exposures, exceeds the following thresholds, and the protective measures available to employees to reduce their wildfire smoke exposures: (a) When at least two consecutive current PM_{2.5} readings are 20.5 µg/ m³ (AQI 69) or more...”</p> <p>We believe this threshold is too high. According to the U.S. Environmental Protection Agency, persons who are unusually sensitive to air pollution may experience risks</p>	<p>Thank you for your comment.</p> <p>WISHA mandates L&I adopt health and safety standards and the control for harmful physical agents which “to the extent feasible, on the basis of the best available evidence, that no employee will suffer material impairment of health or functional capacity.” L&I must also determine that the rules are least burdensome alternative that still achieves the goals and objectives of WISHA.</p> <p>In determining the exposure thresholds and other requirements for the rules, L&I considered the wildfire smoke regulations from California and Oregon, and the current best evidence on wildfire smoke exposure, in addition to stakeholder input and comments. In setting the 20.5 µg/m³ (AQI 69) threshold specifically, L&I additionally reviewed the EPA’s rationale for setting each AQI breakpoint, and considered evidence regarding when elevated levels PM levels are most likely due to wildfire smoke versus other sources of air pollution. L&I also considered the hazard messaging from the Washington Air Quality Advisory (WAQA). The WAQA was a public health communication tool used by Washington State Departments of</p>

<p>when the Air Quality Index (AQI) is 51 (PM_{2.5} 12.1 µg/m³ or higher).</p> <p>Such sensitive groups include individuals with respiratory conditions. There is a sufficient percentage of farmworkers with respiratory illnesses (or symptoms consistent with such conditions) to warrant concern for this population at levels of exposure below AQI 69 (20.5 µg/m³). A study of 702 Latino farmworkers found a prevalence of 6% for asthma, 5% for chronic cough, 3% for chronic bronchitis, and 7% for persistent wheeze. The total number of years spent working in agriculture was positively associated with asthma. At the national level, data collected by the National Agricultural Workers Survey (NAWS) of the U.S. Department of Labor between 2003 and 2014 found that the self-reported lifetime prevalence of physician-diagnosed asthma among farmworkers was 3.0% and the self-reported prevalence of currently treated asthma was 1.7%.</p> <p>Because of the risk to these sensitive groups when the AQI is 51 (12.1 µg/m³) or higher, it is necessary for employers to initiate hazard communication before that threshold is reached.</p> <p>This is especially important because workers with health conditions that make them more vulnerable to the effects of wildfire smoke may not be aware of increased levels of smoke pollution and the corresponding risks until they are able to smell smoke, by which time the AQI may be much higher than the level leading to health effects.</p>	<p>Ecology and Health. While now defunct, the WAQA was in effect during 2020 and 2021, when L&I began its work on the wildfire smoke rules. The WAQA hazard messaging indicated that PM_{2.5} exposures above 20.5 µg/m³ were unhealthy for sensitive groups. The WAQA indicated that PM_{2.5} exposures of 12.1 µg/m³ were “moderate.”</p> <p>This comment did not result in a change in the adopted rules language.</p>
<p>Lower the threshold to require that a wildfire smoke response plan be in place to AQI 51 (12.1 µg/m³).</p>	<p>Thank you for your comment.</p>

<p>WAC 296-307-09820 (3) states that: “A wildfire smoke response plan must be included in the written accident prevention program before work that exposes the worker to a PM_{2.5} concentration of 20.5 µg/m³ (AQI 69) or more.”</p> <p>However, as previously described, some sensitive individuals may begin experiencing health effects when the AQI is 51 (12.1 µg/m³) or higher. Therefore, workers must have access to the elements contained in the response plan before AQI 51 is reached.</p> <p>These elements, include, but are not limited to, the health effects and adverse symptoms of wildfire smoke exposure; the importance of informing the employer when the employee is experiencing adverse symptoms of wildfire smoke exposure; the right to obtain medical treatment without fear of reprisal; the requirements of the rule; the employer's response plan for wildfire smoke (including methods to protect employees from wildfire smoke), and exposure symptom response procedures.</p>	<p>WISHA mandates L&I adopt health and safety standards and the control for harmful physical agents which “to the extent feasible, on the basis of the best available evidence, that no employee will suffer material impairment of health or functional capacity.” L&I must also determine that the rules are least burdensome alternative that still achieves the goals and objectives of WISHA.</p> <p>In determining the exposure thresholds and other requirements for the rules, L&I considered the wildfire smoke regulations from California and Oregon, and the current best evidence on wildfire smoke exposure, in addition to stakeholder input and comments. In setting the 20.5 µg/m³ (AQI 69) threshold specifically, L&I additionally reviewed the EPA’s rationale for setting each AQI breakpoint, and considered evidence regarding when elevated levels PM levels are most likely due to wildfire smoke versus other sources of air pollution. L&I also considered the hazard messaging from the Washington Air Quality Advisory (WAQA). The WAQA was a public health communication tool used by Washington State Departments of Ecology and Health. While now defunct, the WAQA was in effect during 2020 and 2021, when L&I began its work on the wildfire smoke rules. The WAQA hazard messaging indicated that PM_{2.5} exposures above 20.5 µg/m³ were unhealthy for sensitive groups. The WAQA indicated that PM_{2.5} exposures of 12.1 µg/m³ were “moderate.”</p> <p>This comment did not result in a change to the adopted rules language.</p>
<p>Strengthen requirement for employers to select and announce air quality measurement method in advance. In the interest of creating a clear and consistent approach to wildfire smoke, the wildfire smoke safety plan required in the draft rule should specify what method will be used to measure air quality.</p>	<p>Thank you for your comment.</p> <p>The following item was added to the list of requirements in the written wildfire smoke response plan:</p> <p>The employer’s methods of determining the current PM_{2.5} under WAC 296-820-815 Identification of harmful exposures;</p>

	<p>This comment resulted in a change in the adopted rules language.</p>
<p>An adequate safety plan should be rooted in public health understanding and regularly updated to reflect the realities of working outdoors. Effective safety plans must reflect our current understanding of climate hazards and their impacts to public health and occupational health.</p>	<p>Thank you for your comment.</p> <p>WAC 296-820-820(2) requires that employers develop a wildfire smoke exposure response plan that must be tailored to the workplace. The plan must include the following elements:</p> <ul style="list-style-type: none"> (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 WAC 296-820-860 Wildfire smoke; (e) The employer’s methods of determining the current PM_{2.5} under WAC 296-820-815 Identification of harmful exposures; (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. <p>Employers are expected to tailor their plan to the specific needs and conditions of their workplace, and make updates to reflect changes as needed. L&I developed these requirements based on the currently available public and occupational health science, but recognizes that this is a rapidly developing field. The department will continue to</p>

	<p>evaluate effectiveness of the rule in practice, and monitor the public and occupational health evidence as it progresses.</p> <p>This comment did not result in a change to the adopted rules language.</p>
<p>When the smoke conditions do hit we tell employees that it's getting smoky or that we're starting to hit other action levels as required by the Rule, our communication will carry more weight, because we're not simply stating every day that it's 20.5, you know, or higher. We'll get drowned out, when we really do need our employees to listen and take action.</p> <p>For comparison, the action level for respiratory and crystalline silica exposure is 25 micrograms per cubic meter but 20.5 is less than that level. I don't think those two things really compare in terms of looking at overall respiratory protection.</p>	<p>Thank you for your comment.</p> <p>In determining the exposure thresholds and other requirements for the rules, L&I considered the wildfire smoke regulations from California and Oregon, and the current best evidence on wildfire smoke exposure, in addition to stakeholder input and comments. L&I must also determine that the rules are least burdensome alternative that still achieves the goals and objectives of WISHA.</p> <p>The adopted rules require employers notify employees when least two consecutive current PM_{2.5} readings are 20.5 µg/ m³ (AQI 69). Notification is of special importance at lower levels of PM_{2.5} as employees may not be able to detect the smoke in the air using sensory perception; health risks may be elevated without a smell or taste of smoke in the air. Notification to employees at lower threshold levels enables L&I to achieve the goals and objectives of this rulemaking by allowing employees to take individual action to protect themselves when they are at increased risk.</p> <p>Given the nature of the exposure and the health effects, the requirements cannot be compared to the exposure levels set in the silica standard. For example, wildfire smoke exposures can cause acute health effects.</p> <p>This comment did not result in a change to the adopted rules language</p>
<p>A wildfire smoke response plan should drive this rule. As written, the response plan is buried in the hazard communication section. Please prioritize WAC 296 – 307</p>	<p>Thank you for your comment.</p> <p>Written wildfire smoke response plans, along with effective training and communication are integral to the requirements in the wildfire</p>

<p>– 09820(3) to help employers understand the outline of the requirements.</p> <p>This plan should be for the employer. It does not need to be in a language best understood by employees because the plan will include training in the language and method best understood by employees.</p> <p>Prioritizing the written response plan as the overall outline for the rule will help clarify confusing language in WAC 296-307-09820 (Hazard Communication), which ends with The system shall include effective procedures for: then (3) begins with: A wildfire smoke response plan must be included in the written accident prevention program...</p>	<p>smoke rule. The intent of the requirement for the written response plan to be “in a language that employees understand” is for employees to be able to understand the written program. Doing so enables employees to be aware of the hazards that may exist in their workplace and the mitigating steps that the employer takes to protect them, and for employees to reference throughout the year. In addition to written language, an employer may use pictures or graphics as part of their written communication with employees.</p> <p>Language in the training appendix has been updated for readability, and L&I is producing supplemental materials to assist employers in creating their written programs.</p> <p>The Hazard Communication section of the wildfire smoke rules has been renumbered for clarity.</p> <p>This comment resulted in a change to the adopted rules language.</p>
<p>WAC 296-820-825 and 296-307-09825 Information and Training</p>	
<p>WAC 296-307-09825/296-820-825 Information and training</p> <p>Subsection (2)(e) – The word “employers” needs to be changed to “employer’s.”</p> <p>Subsection (2)(f) – We suggest inserting a comma between “smoke” and “including” and deleting the comma between “smoke” and “and.” Doing so will clarify the meaning of the sentence.</p> <p>Subsection (2)(h) – Delete the comma between “respirator” and “and.”</p> <p>Subsection (3) – Delete the comma between “section” and “and.”</p>	<p>Thank you for your comment.</p> <p>L&I reviewed and considered all feedback submitted related to grammar, punctuation, style, etc., and made a number of updates were made to the adopted rule based on those recommendations.</p> <p>This comment resulted in a change to the adopted rules language.</p>

<p>WAC-296-820-820(g) through (i) These sections all refer to use, care, and maintenance of respirators. Can these sections be deleted from the plan if an employer chooses to curtail outdoor work in lieu of distributing respirators? WAC 296-820-825(g) through (i) Same as above – if an employer chooses to curtail outdoor work in lieu of distributing respirators, can these sections be removed from the training program?</p> <p>We would ask for clarification on training requirements for employers who may have employees exposed at the AQI level of 69, but do not have employees exposed at the AQI level of 101.</p> <p>The current training requirements state that an employer will need to train an employee on how to properly put on, use, and maintain the respirators provided by the employer. If an employer has an internal control that no employee is to work outside when the AQI is 101, does the employer need to train on how to put a respirator on? We have certain instances in our industry where a patio may be open due to beautiful sunny weather, but when the AQI level is at 101 or higher those are shut down. We'd like to alleviate any unnecessary training, especially when we are not experts in this field.</p>	<p>Thank you for your comment.</p> <p>As the elements identified under training requirements under WAC-296-820-820 are under the mandatory Appendix A. While an employer's wildfire response plan may indicate that outdoor operations will be curtailed at 35 µg/m³ (AQI 101), training on the rule requirements is important to ensure employees understand the hazards and their rights. And as employers can be in compliance with this section by providing Appendix A to employees, it is not overly burdensome on employers nor does it require employers to train on issues they have no expertise in.</p> <p>This comment did not result in a change to the adopted rules language.</p>
<p>WAC 296-820-825(3)(C) As written, this section appears to encourage employers to transport persons for emergency medical attention. If emergency services are required, employers should not be transporting patients, they should be summoning emergency services.</p>	<p>Thank you for your comment.</p> <p>WACs 296-820-825(3)(c) and 296-307-09825(3)(c) require that employers have procedures for moving or transporting employees to an emergency medical service provider, if necessary. Based on the employer's operations, they must determine the most appropriate way to address these provisions. This may include procedures to have prepared directions to the worksite available and procedures for</p>

	<p>moving or transporting an employee to a place where the employee can be reached by an emergency medical service provider if necessary, etc.</p> <p>This comment did not result in a change to the adopted rules language.</p>
<p>Lower the threshold to require that employers provide training to all workers and supervisors to AQI 51 (12.1 $\mu\text{g}/\text{m}^3$).</p> <p>The training requirements at WAC 296-307-09825 require worker and supervisor training before work that exposes the worker to a $\text{PM}_{2.5}$ concentration of 20.5 $\mu\text{g}/\text{m}^3$ (AQI 69) or more, and at least annually thereafter.”</p> <p>Proper training is critical in order for workers to understand the health effects of wildfire smoke exposure and recognize its symptoms, to understand and implement appropriate exposure controls, to seek medical treatment in a timely manner, and to understand the rights afforded to them in the workplace with respect to wildfire smoke exposure. Training is equally important for supervisors, to ensure that the rule is applied correctly and that workers receive the protections they are entitled to, including exposure controls, respiratory protections and the ability to seek medical treatment without fear of reprisal. To ensure that all workers, including those in the most sensitive groups, receive all necessary training and protections, the rule must require that employers provide training to all workers and supervisors before work that exposes workers to AQI 51 (12.1 $\mu\text{g}/\text{m}^3$).</p>	<p>Thank you for your comment.</p> <p>WISHA mandates L&I adopt health and safety standards and the control for harmful physical agents which “to the extent feasible, on the basis of the best available evidence, that no employee will suffer material impairment of health or functional capacity.” L&I must also determine that the rules are least burdensome alternative that still achieves the goals and objectives of WISHA.</p> <p>In determining the exposure thresholds and other requirements for the rules, L&I considered the wildfire smoke regulations from California and Oregon, and the current best evidence on wildfire smoke exposure, in addition to stakeholder input and comments. In setting the 20.5 $\mu\text{g}/\text{m}^3$ (AQI 69) threshold specifically, L&I additionally reviewed the EPA’s rationale for setting each AQI breakpoint, and considered evidence regarding when elevated levels PM levels are most likely due to wildfire smoke versus other sources of air pollution. L&I also considered the hazard messaging from the Washington Air Quality Advisory (WAQA). The WAQA was a public health communication tool used by Washington State Departments of Ecology and Health. While now defunct, the WAQA was in effect during 2020 and 2021, when L&I began its work on the wildfire smoke rules. The WAQA hazard messaging indicated that $\text{PM}_{2.5}$ exposures above 20.5 $\mu\text{g}/\text{m}^3$ were unhealthy for sensitive groups. The WAQA indicated that $\text{PM}_{2.5}$ exposures of 12.1 $\mu\text{g}/\text{m}^3$ were “moderate.”</p> <p>This comment did not result in a change to the adopted rules language.</p>

<p>WAC 296 – 307 – 09825(2) specifies employers must train employees on Appendix A, which is too detailed and confusing. Please allow employers to train employees based on the bullet points following this standard and use the appendix as a resource. This appendix must be easier for employers to read and please do not confuse it with the written response plan.</p> <p>The substantive standards contained in Appendix A, which is mandatory for someone, are inconsistent with the rules in WAC 296-307-09815 through 296-307-09845. The reader will most likely read the rules, arrive at the appendices, and discover that additional requirements may be necessary.</p>	<p>Thank you for your comment.</p> <p>Employers must train on all topics under WAC 296-307-09825(2) and ensure the training includes the information on these topics that are in Appendix A. Employer can create their own training so long as it covers the materials in Appendix A. Employers can provide Appendix A to employees if they determine that it an appropriate manner of training for their particular employees and that it is in the language readily understood.</p> <p>Appendix A has been clarified to address concerns with perceived inconsistencies and make it easier to use In addition, L&I will develop training model training materials that an employer and will make available in multiple languages.</p> <p>This comment resulted in a change to the adopted rules language.</p>
<p>According to proposed WAC 296-307-09825, some minimum standards from Appendix A must be included in training provided to workers. But is all of Appendix A mandatory for employers? Is only some mandatory for workers? Or is all mandatory for everyone? The mandatory or non-mandatory nature of all three appendices is not explained clearly. To whom are they mandatory – employers or workers? Are they intended as handouts to workers? Why would non-mandatory information be included in the rules?</p>	<p>Thank you for your comment.</p> <p>Appendix A is mandatory for employers, not employees, because it provides content for employers to train employees, which is a requirement in the adopted rule. . Employer can create their own training so long as it covers the materials in Appendix A. .Employers can provide Appendix A to employees if they determine that it an appropriate manner of training for their particular employees and that it is in the language readily understood.</p> <p>Appendix B is non-mandatory because it provides supplemental guidance to employers that wish to calculate PM_{2.5} as an AQI value, both of which are not requirements in the rule. To ensure clarity on this, the information in Appendix B was incorporated into WAC 296-820-845 and 296-307-09845.</p> <p>This comment resulted in a change to the adopted rules language.</p>

<p>WAC 296-307-09825/296-820-825 Information and training</p> <p>The timing of the training in the first paragraph of this new section is a bit confusing. Employers must provide employees with information and training regarding wildfire smoke “before work that exposes the worker to a PM_{2.5} concentration of [an AQI of 69] or more, and at least annually thereafter.” Does “before” mean immediately prior to starting work? Must this training occur each workday that has an AQI of 69 or more? Does annual training not start until after the first time AQI 69 and subsequent training is reached? If training is performed on an ongoing annual basis, must training also occur immediately prior to work in AQI 69 conditions? We suggest that L&I answer these questions by clarifying the language to require only annual training on wildfire smoke procedures. Doing so provides necessary education and avoids confusion about the timing of training.</p>	<p>Thank you for your comment.</p> <p>The rule language has been edited for clarity:</p> <p>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 PM_{2.5} concentration of 20.5 µg/m³ (AQI 69) or more. Training must be provided at least annually thereafter.</p> <p>This comment resulted in a change to the adopted rules language.</p>
<p>We would also note the widespread use of temporary agencies, labor contractors, and other staffing services in industries that are especially at risk for smoke exposure. Numerous studies have shown that these workers are often the ones who are put into the most dangerous situations. They may or may not have the training, and they don't really necessarily have the experience on the job to report conditions, or confidence, to report conditions to management that is not their direct employer. So we would urge L&I to make it clear that both a direct employer and the secondary employer are responsible for ensuring that temp and staffing workers get necessary training; that they understand where masks may be</p>	<p>Thank you for your comment.</p> <p>Both temporary staffing agencies/labor contractor and the host employers have responsibilities to ensure temporary workers have a safe and healthful workplace.</p> <p>L&I has resources and information related to temporary worker safety here: https://www.lni.wa.gov/safety-health/safety-topics/topics/temporary-workers#requirements-and-policies</p> <p>The wildfire smoke training will be available in multiple languages.</p> <p>This comment did not result in a change to the adopted rules language.</p>

<p>available; and they understand the processes for communicating hazards.</p>	
<p>We also would like to ensure that workers know all of their rights under Washington State Law. So we would urge L&I to call for training materials in languages understood by the workers using commonplace terminology. But also suggest as a tool partnering with worker advocates who may have language and cultural competencies to deliver these trainings and answer questions. Which I think is an important part of the training. And if you've got a trainer who isn't fluent in the language that the workers all speak answering questions, will be challenging, and possibly ensure that workers don't get the information that they need.</p>	<p>Thank you for your comment.</p> <p>The adopted rules require that information and training must be provided in a manner and language readily understood by the workers. Employers must train on all topics under WAC 296-820-825 and 296-307-09825(2) and ensure the training includes the information on these topics that are in Appendix A. Employer can create their own training so long as it covers the materials in Appendix A. Employers can provide Appendix A to employees if they determine that it an appropriate manner of training for their particular employees and that it is in the language readily understood.</p> <p>Appendix A has been clarified to address concerns with perceived inconsistencies and make it easier to use. In addition, L&I will develop training model training materials that an employer and will make available in multiple languages.</p> <p>This comment resulted in a change to the adopted rules language.</p>
<p>The rule requires us to train employees on how it is that they can find out where existing wildfire smoke notifications are, how we will determine that as an employer? We would prefer that that training suffice for the 20.5 microgram per cubic meter notification requirement, because employees can already go and find when smoke thresholds are hitting that level, because we've trained them on it.</p>	<p>Thank you for your comment.</p> <p>There is no known safe level of PM_{2.5} exposure. L&I has determined that there is risk to workers at, and below 20.5 µg/m³. At this level, employers are required to notify employees of the amount of smoke, and protective measures available. Without notification, workers may not be aware of the risks they are working in, or the protective measures available to allow them to take preventative measures to avoid experiencing symptoms. Notification would also serve to ensure that only workers who have received proper wildfire smoke training continue to work in the smoke. Not all employees will have the means of checking the smoke levels themselves, so notification remains an</p>

	<p>important part of an effective wildfire smoke response plan, alongside training, and a written plan.</p> <p>This comment did not result in a change to the adopted rules language.</p>
<p>We would like a little bit of clarification on the training. What information must be shared with employees? What if an employee has already taken the training, must they repeat it? And we really do believe that the current rules have been effective when viewed in terms of hours worked versus claimed, and we're just worried that these proposed changes will add unnecessary obligations for both employers and employees that don't match the science.</p>	<p>Thank you for your comment.</p> <p>Training must be taken before work under the scope of the rule, and at least every year after that. Information that must be shared with employees is listed in the Information & Training section of the rule. If the employee has taken the training from their employer within the previous year, it does not need to be repeated. Training conducted by another employer will not substitute for training by the employee's current employer.</p> <p>This comment did not result in a change to the adopted rules language.</p>
<p>a. When and how often must the training be conducted? Every time the AQI reaches 69 or more? b. What information is required to be shared during the training? c. What if employees have taken the training somewhere else? Does that transfer?</p>	<p>Thank you for your comment.</p> <p>The employer must provide all workers with effective information and training regarding wildfire smoke before work that exposes the worker to a PM_{2.5} concentration of 20.5 µg/m³ (AQI 69) or more, and at least annually thereafter.</p> <p>Employers must train on all topics under WAC 296-820-825 and 296-307-09825(2) and ensure the training includes the information on these topics that are in Appendix A. Employer can create their own training so long as it covers the materials in Appendix A. Employers can provide Appendix A to employees if they determine that it an appropriate manner of training for their particular employees and that it is in the language readily understood.</p> <p>Appendix A has been clarified to address concerns with perceived inconsistencies and make it easier to use. In addition, L&I will</p>

	<p>develop training model training materials that an employer and will make available in multiple languages.</p> <p>Training is non-transferrable between employers.</p> <p>This comment did not result in a change to the adopted rules language.</p>
WAC 296-820-830 and 296-307-09830 Exposure Symptom Response	
<p>The requirements to arrange for “prompt medical treatment” are unclear.</p> <p>How are employers to make arrangements for “prompt medical treatment”? Is a plan to call an ambulance sufficient? If not, how are employers expected to arrange for the wide range of conditions that employees may experience?</p>	<p>Thank you for your comment.</p> <p>WACs 296-307-09830(4) and 296-820-830(4) require that employers have provisions made in advance for prompt medical attention of employees who display symptoms of wildfire smoke exposure.</p> <p>Plans for prompt medical attention will vary depending on the location of the worksite, proximity to medical care facilities, and other factors. Plans may include how to summon medical care, prepared directions to the worksite available, procedures for moving or transporting an employee to a place where the employee can be reached by an emergency medical service provider if necessary, etc.</p> <p>This comment did not result in a change to the adopted rules language.</p>
<p>WAC 296-820-830(2) Can employees simply go home if they do not wish to seek medical treatment?</p>	<p>Thank you for your comment.</p> <p>The purpose of the Exposure Symptom Response section of the Wildfire Smoke rules is to ensure that employees who experience symptoms of wildfire smoke have the ability to recover. Although harm from wildfire smoke may occur even without the development of acute clinical symptoms, the appearance of symptoms in the setting of wildfire smoke exposure is an indication that the exposures are inadequately controlled. The anti-retaliation provisions included in WAC 296-820-830 and 296-307-09830 ensure employees can seek</p>

	<p>out and as necessary follow medical advice concerning wildfire smoke exposures and symptoms to recover from their symptoms, thereby protecting them from further harm.</p> <p>L&I considered this comment and determined that the exposure symptom response language in the proposed rules would benefit from additional clarification describing the nature of the activities that is protected from retaliation following the development of symptoms that may potentially be related to wildfire smoke exposure. L&I also made corresponding changes in Appendix A of these adopted rules (WAC 296-820-850 and 296-307-09850).</p> <p>The changes make clearer that employees following a medically supervised course of action in response to the development of symptoms in the setting of exposure to wildfire smoke are protected against retaliation. The timing of when an employee receives that medical advice may come following the development of symptoms or before developing symptoms, in which case following the medical advice they have received before the exposures is also an activity protected against retaliation.</p> <p>Going home is not uncommonly a medically-appropriate therapeutic intervention employees experiencing symptoms that may potentially be related to wildfire smoke exposure may receive from medical professionals. If an employee goes home in order to follow a medically-supervised course of action after developing symptoms, that would be a protected activity for which retaliation is prohibited under these adopted rules.</p> <p>Employee actions that follow developing symptoms in the setting of wildfire smoke exposure that do not come under the clarified language of WAC 296-820-830(1) or 296-307-09830(1) may fall outside the scope of these adopted rules, but may nevertheless remain protected</p>
--	--

under other existing laws. This includes Washington’s paid sick leave requirements under chapter 49.46 RCW, which states employees have a right to use any earned paid sick leave for a mental or physical illness, injury, or health condition or if they need a medical diagnosis or preventative medical care. Employers may not discriminate against an employee for exercising their rights to paid sick leave. The rules for paid sick leave are under WAC 296-128-600 through 760.

This comment resulted in changes to the adopted rules language, as follows:

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;

	<ul style="list-style-type: none"> • 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. <p>(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.</p> <p>Corresponding changes have been made throughout Appendix A.</p>
<p>This section should require employers to define mechanisms for summoning emergency assistance, particularly when employees are working in remote areas, rather than arranging or providing it.</p>	<p>Thank you for your comment.</p> <p>WACs 296-307-09830(3) and 296-820-830(3) require that employers have provisions made in advance for prompt medical treatment of employees who display adverse symptoms of wildfire smoke exposure.</p> <p>Plans for prompt medical treatment will vary depending on the location of the worksite, proximity to medical care facilities, and other factors. Plans may include how to summon medical care, prepared directions to the worksite available, procedures for moving or transporting an employee to a place where the employee can be reached by an emergency medical service provider if necessary, etc.</p> <p>This comment did not result in a change to the adopted rules language.</p>

<p>Include a mention that employees are responsible for monitoring their own symptoms and communicating with their employer if they experience symptoms consistent with particulate exposure, and if they have any conditions that make them susceptible to its impacts.</p>	<p>Thank you for your comment.</p> <p>The L&I wildfire smoke rules apply to employers, rather than employees. Employers may encourage employees to monitor and report any symptoms that may be connected to wildfire smoke. However, it remains the employer’s responsibility to meet the requirements of the rule, including WAC 296-307-09830 or 296-820-830, Exposure symptom response.</p> <p>This comment did not result in a change to the adopted rules language.</p>
<p>Also the rule should directly reference the legal ability for workers to refuse to continue work in unsafe conditions, per WAC 296-360-150. With regard to wildfire smoke, acute danger is present at AQI of 300 or above. Workers should be aware that they may refuse to work at that level of unhealthy air exposure unless their employer provides the required protection, though we understand the worker must request that the employer provide such protection before stopping work. We propose the following additions to this section; changes are underlined.</p> <p>WAC 296-307-09830/296-820-830 Exposure symptom response</p> <p>(2) Employers must allow employees who display symptoms of wildfire smoke exposure to seek medical treatment, and may not retaliate against affected employees for seeking such treatment. <u>Employers also must not retaliate against employees for exercising their rights to a safe workplace with respect to the hazards presented by wildfire smoke as identified in WAC 296-128-770 and WAC 296-360-150.</u></p>	<p>Thank you for your comment.</p> <p>The retaliation protections under WISHA do not require specific reference to apply. The worker training material in Appendix A includes a link for workers to get information on workplace safety and health rights, discrimination protections, and filing a discrimination complaint.</p> <p>L&I DOSH has existing outreach materials available emphasizing the importance of non-retaliation and will continue to communicate the importance of non-retaliation in the development of future outreach materials.</p> <p>WISHA protects employees from retaliation when they engage in the following actions:</p> <ul style="list-style-type: none"> • Bring job safety and health concerns to the employer's attention. • Participate in union activities concerning safety and health matters. • Refuse a dangerous task when certain conditions exist. • File safety and health grievances.

	<ul style="list-style-type: none"> • Participate in safety and health inspections with a DOSH inspector. • File a complaint about a workplace safety or health hazard with DOSH, OSHA, or other appropriate government agency. <p>This comment did not result in a change to the adopted rules language.</p>
<p>Under WAC 296-307-09830(4), the current threshold of 250.5 $\mu\text{g}/\text{m}^3$ (AQI 301) is where employers must ensure that workers experiencing adverse symptoms requiring medical attention be moved to a location that ensures sufficient clean air is too high.</p> <p>However, if the adverse symptoms experienced by a worker are serious enough to warrant medical attention, it is of the utmost importance that the worker is moved to a location with clean air to prevent the worsening of the symptoms. “Adverse symptoms requiring medical attention”, as defined at WAC 296-307-09810 (1), are symptoms consistent with effects of wildfire smoke exposure. Under conditions of diminished air quality, it is prudent to take a precautionary approach and treat such symptoms as if they are related to wildfire smoke and provide the worker immediate access to clean air. There is no reason to deprive workers of such a basic protection until the AQI has reached 301 (which the EPA describes as “Hazardous...Health warning of emergency conditions”) when workers may begin experiencing symptoms that require medical attention at lower AQIs.</p> <p>There is evidence that the relationship between $\text{PM}_{2.5}$ pollution and hospitalizations for cardiovascular and</p>	<p>Thank you for your comment.</p> <p>The purpose of the Exposure Symptom Response section of the Wildfire Smoke rules is to ensure that employees who experience symptoms of wildfire smoke have the ability to recover. The adopted rules update WACs 296-307-09830(4) and 296-820-830(4) to be (3) and to read as follows:</p> <p>(3) Where the current $\text{PM}_{2.5}$ is 250.5 $\mu\text{g}/\text{m}^3$ (AQI 301) or more, employers must ensure workers experiencing symptoms requiring immediate medical attention, including those described under subsection (2)(a) of this section, be moved to a location that ensures sufficient clean air such as:</p> <p>(a) A location where the current $\text{PM}_{2.5}$ is less than 20.5 $\mu\text{g}/\text{m}^3$; or (b) An enclosed building, structure, or vehicle with HEPA filtration sufficient for the volume of the space.</p> <p>This updated rule language clarifies the rights of workers with regard to the symptoms eligible for relief under (3) by providing a partial list of symptoms under (2)(a). Employers are expected to work with employees to eliminate or reduce continued exposure as appropriate depending on the type of symptoms, the level of exposure, the exposure controls in place, and the respiratory protection in place.</p>

<p>respiratory diseases becomes statistically significant at much lower PM_{2.5} concentrations than those at which the rule requires employers to move employees experiencing adverse symptoms requiring medical attention to a clean air location. In the analysis accompanying its 2013 National Ambient Air Quality Standards for Particulate Matter, the EPA cited an analysis of a Medicare cohort across 204 U.S. counties, which showed a statistically significant association between hospitalizations for cardiovascular and respiratory diseases and short-term PM_{2.5} exposure at or below 35 µg/m³ (AQI of approximately 101).</p> <p>Given the potential for symptoms serious enough to require hospitalization to occur at AQI below 101, the threshold for action must be lowered to AQI 51 in order to prevent the aggravation of symptoms.</p>	<p>In determining the exposure symptom response threshold, L&I considered the wildfire smoke regulations from California and Oregon, and the current best evidence on wildfire smoke exposure, in addition to stakeholder input and comments. L&I must also determine that the rules are least burdensome alternative that still achieves the goals and objectives of WISHA. As such, L&I determined that that the best available evidence and the least burdensome alternative was to set the threshold for requiring employers to provide a location with clean air for those workers experiencing symptoms requiring immediate medical attention at 250.5 µg/m³ (AQI 301). For more information on the determination of the thresholds, see the final cost benefit analysis, available on L&I’s website.</p> <p>This comment did not result in a change to the adopted rules language.</p>
<p>WAC 296-307-09830 Exposure symptom response. Subsection (4)(a) establishes methods by which employers must ensure workers experiencing adverse symptoms requiring medical attention are moved to a location that ensures sufficient clean air by “providing a location where the current PM_{2.5} is less than 20.5 µg/m³.”</p> <p>However, the rule allows, as an alternative, “providing an enclosed building, structure, or vehicle with HEPA filtration sufficient for the volume of space.” There may be instances in which outdoor air quality conditions reach such levels that even with sufficient filtration, air quality in these protective spaces is only able to be marginally improved against outdoor rates due to other contributing factors such as smoke infiltration rates into supposedly protective environments that have</p>	<p>Thank you for your comment.</p> <p>The purpose of this requirement is to ensure employers that who continue to have workers performing work outdoors when the smoke reaches 250.5 µg/m³ (AQI 301), a level that the EPA deems hazardous to everyone, have identified a location that meets the requirements under the rule. If the hazardous air quality condition are experienced, employers must be able to use this location for workers experiencing symptoms requiring medical attention while medical attention is being acquired.</p> <p>The rule requires an area with sufficient clean air and provides examples of what might meet that criteria including an area that is shown to have a PM_{2.5} is less than 20.5 µg/m³. In many cases, this would be achieved by moving a worker to an indoor building with mechanical ventilation where PM_{2.5} sensors show levels below 20.5</p>

<p>been otherwise equipped with sufficient filtration, thereby impairing the effectiveness of air quality filtration when used as a sole protective measure.</p>	<p>$\mu\text{g}/\text{m}^3$, but could also be met with the use of portable HEPA filtration in buildings or vehicles where the filtration systems are rated for the volume of the space. If smoke infiltration does not allow sufficient clean air to be maintained, additional steps would need to be taken to seal the space against smoke infiltration.</p> <p>Additional information on how to provide sufficient filtration can be found from sources such as WA DOH, and the EPA. https://www.airnow.gov/sites/default/files/2020-10/indoor-air-filtration-factsheet_1.pdf</p> <p>This comment did not result in a change to the adopted rules language.</p>
<p>Under WAC 296-307-09830 Exposure Symptom Control please clarify the employer’s responsibility to: a. Providing a location where the current $\text{PM}_{2.5}$ is less than $20.5 \mu\text{g}/\text{m}^3$; or b. Providing an enclosed building, structure, or vehicle with HEPA filtration sufficient for the volume of the space.</p>	<p>Thank you for your comment.</p> <p>The purpose of this requirement is to ensure that employers that continue to have workers performing work outdoors when the smoke reaches $250.5 \mu\text{g}/\text{m}^3$ (AQI 301), a level that the EPA deems hazardous to everyone, have identified a location that meets the requirements under the rule. If hazardous air quality conditions exist, employers must be able to use the identified space for workers experiencing symptoms requiring immediate medical attention while medical attention is being acquired.</p> <p>HEPA filtration of an enclosed location is usually done via mechanical ventilation. In many cases, this would mean that an employer would meet this requirement by moving a worker to an indoor building with mechanical ventilation but employers could also accomplish this with the use of portable HEPA filtration with sufficient for the volume of space.</p> <p>Additional information on how to provide sufficient filtration can be found from sources such as WA DOH, and the EPA.</p>

	<p>https://www.airnow.gov/sites/default/files/2020-10/indoor-air-filtration-factsheet_1.pdf</p> <p>This comment did not result in a change to the adopted rules language.</p>
<p>WAC 296-820-830, Exposure Symptom Response, I would like you to clarify the explained symptoms, what the symptoms would be, because it states, The employer must monitor employees displaying symptoms of wildfire smoke. And there is a whole section of it, but there is no definition of what kind of symptoms you have to monitor.</p>	<p>Thank you for your comment.</p> <p>L&I considered this comment and determined that language in the proposed rules concerning wildfire smoke symptoms should be clarified to more completely describe those that are or may potentially be related to wildfire smoke exposures.</p> <p>L&I has correspondingly expanded upon and included more examples of such symptoms in three sections of these adopted rules: Hazard Communication (WAC 296-820-820 and 296-307-09820), Exposure Symptom Response (WAC 296-820-830 and 296-307-09830), and Appendix A (WAC 296-820-850 and 296-307-09850). Because it is not feasible to construct an exhaustive list of such symptoms within these rules, wherever symptoms are listed in the adopted rules they are introduced by language that clarifies such wildfire smoke symptoms “include, but are not limited to...” or similar.</p> <p>This comment resulted in changes to the adopted rules language.</p>
<p>WAC 296-307-09830/296-820-830 Exposure symptom response Subsection (2) – Delete the comma between “treatment” and “and.” It is not necessary.</p>	<p>Thank you for your comment.</p> <p>L&I reviewed and considered all feedback submitted related to grammar, punctuation, style, etc., and a number of updates were made to the adopted rule based on those recommendations.</p> <p>This comment did not result in a change to the adopted rules language.</p>
<p>WAC 296-820-835 and 296-307-09835 Exposure Controls</p>	
<p>Why doesn't the rule require employers to send employees home? When you work outside and you're sucking down</p>	<p>Thank you for your comment.</p>

<p>wildfire smoke all day long for 8 hours a day 5 days a week, does the employer have NO duty to send their employees home and protect them?</p>	<p>Wildfire smoke exposure is a recognized hazard to outdoor workers. WISHA mandates that L&I “[p]rovide for the promulgation of health and safety standards and the control of conditions in all workplaces concerning...harmful physical agents which shall set a standard which most adequately assures, to the extent feasible, on the basis of the best available evidence, that no employee will suffer material impairment of health or functional capacity.”</p> <p>As such, L&I’s role is to adopt rules that set standards to protect against occupational hazards that are feasible.</p> <p>This comment did not result in a change to the adopted rules language.</p>
<p>The language “whenever feasible” in this section is insufficiently clear to ensure employer compliance. Feasibility as defined in the similar Oregon wildfire smoke rules requires employer compliance with the regulation unless the employer can demonstrate that it is functionally impossible to comply without preventing the work. Similar language should be adopted here as follows. Changes are <u>underlined</u>.</p> <p>WAC 296-820-835 Exposure controls</p> <p>...</p> <p>(2) Where the current PM_{2.5} is 35.5 µg/m³ (AQI 101) or more, <u>the employer must implement effective exposure controls unless doing so would require a complete and continuous cessation of work on the worksite, discounting time taken to provide and fit-test the distributed respirators. If compliance with any of these requirements would require a complete and continuous cessation of work, the employer must take any available reasonable alternative to protect those employees for whom protections cannot be fully provided.</u></p>	<p>Thank you for your comment.</p> <p>In determining feasibility, L&I DOSH looks at both economic feasibility and technological feasibility. As such, this determination is similar to the language used in the Oregon OSHA’s rule. Guidance will be provided to inspectors as to how to evaluate feasibility in the Wildfire Smoke DOSH Directive. The Directive will be available to employers, employees, and others, once published.</p> <p>This did not result in a change to the adopted rules language.</p>

<p>The threshold at which the employer is encouraged to implement exposure controls must be lowered to AQI 51 (12.1 µg/m³).</p>	<p>Thank you for your comment.</p> <p>In determining the exposure thresholds and other requirements for the rules, L&I considered the wildfire smoke regulations from California and Oregon, and the current best evidence on wildfire smoke exposure, in addition to stakeholder input and comments. L&I must also determine that the rules are least burdensome alternative that still achieves the goals and objectives of WISHA. As such, L&I determined that that the best available evidence and the least burdensome alternative was to set the thresholds for both encouraging exposure controls and training at 20.5 µg/m³ (AQI 69). For more information on the determination of the thresholds, see the final cost benefit analysis available on L&I's website.</p> <p>This comment did not result in a change to the adopted rules language.</p>
<p>Some sensitive groups experience health effects from wildfire smoke exposure at thresholds below AQI 69 (20.5 µg/m³).</p> <p>Workers in those groups would benefit from the availability of exposure controls in the workplace at the recommended AQI 51 (12.1 µg /m³) and we recommend that the rule adopt this threshold.</p>	<p>Thank you for your comment.</p> <p>In determining the exposure thresholds and requirements for the rules, L&I considered the wildfire smoke regulations from California and Oregon, and the current best evidence on wildfire smoke exposure, in addition to stakeholder input and comments. L&I must also determine that the rules are least burdensome alternative that still achieves the goals and objectives of WISHA. As such, L&I determined that that the best available evidence and the least burdensome alternative was to set the thresholds for both encouraging exposure controls and training at 20.5 µg/m³ (AQI 69). For more information on the determination of the thresholds, see the final cost benefit analysis available on L&I's website.</p> <p>This comment did not result in a change to the adopted rules language.</p>
<p>Since outdoor workers are classified as a socially vulnerable group by the EPA (as mentioned previously in this letter), they need enhanced protection against the</p>	<p>Thank you for your comment.</p>

<p>possibly long-term and life-threatening effects of wildfire smoke. At AQI 51 (12.1 $\mu\text{g}/\text{m}^3$), employers should be encouraged to implement exposure controls. At AQI 69 (20.5 $\mu\text{g}/\text{m}^3$), employers should be required to implement exposure controls.</p>	<p>In determining the exposure thresholds and other requirements for the rules, L&I considered the wildfire smoke regulations from California and Oregon, and the current best evidence on wildfire smoke exposure, in addition to stakeholder input and comments. L&I must also determine that the rules are least burdensome alternative. As such, L&I determined that that the best available evidence and the least burdensome alternative was to set the thresholds for both encouraging exposure controls and training at 20.5 $\mu\text{g}/\text{m}^3$ (AQI 69) and for requiring exposure controls and voluntary respiratory protection at 35.5 $\mu\text{g}/\text{m}^3$ (AQI 101). For more information on the determination of the thresholds, see the final cost benefit analysis available on L&I's website.</p> <p>This comment did not result in a change to the adopted rules language.</p>
<p>WAC 296-307-09835 Exposure controls. Subsection (3)(a) uses the terminology "where the air is adequately filtered." However, the proposed rule does not define "adequate filtration." This terminology should be further defined to improve the operability of this rule.</p>	<p>Thank you for your comment.</p> <p>Adequate filtration depends on a variety of factors, and varies widely based on the needs of the workspace. Employers are required to implement feasible exposure controls. The rule includes a list of examples employers may use to help determine which options may be feasible for their worksite, which could include adequate filtration that reduces the PM_{2.5} in the air. The rule does not define adequate filtration because it may vary depending on the worksite, and may be improved over time. Where work performed is still under the scope of the wildfire rules, employers are required to follow the respiratory protection requirements even if they implement feasible engineering controls. While specific parameters for adequate filtration are not defined, any reduction in PM_{2.5} that could be achieved with exposure controls would be beneficial to worker health.</p> <p>This comment did not result in a change to the adopted rules language.</p>
<p>Subsection (3)(b) encourages employers to provide portable HEPA filters in enclosed areas. Additional</p>	<p>Thank you for your comment.</p>

<p>language should be added to clarify that portable HEPA filters should be adequately sized based on the clean air delivery rate (CADR) to ensure effective air cleaning.</p>	<p>L&I will take this comment into consideration for the development of outreach documents that provide guidance on best practices. The EPA provides additional guidance on indoor air filtration that may be used to assist decision-making: https://www.airnow.gov/sites/default/files/2020-10/indoor-air-filtration-factsheet_1.pdf</p> <p>This comment did not result in a change to the adopted rules language.</p>
<p>WAC 296-307-09835 Exposure controls. Subsection (3)(e) includes a provision by which work that creates additional dust, fumes, or smoke should be avoided or reduced. It is unclear whether this rule would require a reduction in the use of mechanical equipment and machinery that contributes to diesel exhaust emissions or industrial emissions that can further impair outdoor air quality during a wildfire smoke event. Adding a statement at the end of (3)(e), such as “that is not adequately captured or filtered at the source of contaminant generation,” would provide an option to continue working but with implemented engineering controls.</p>	<p>Thank you for your comment.</p> <p>The language was modified to read as follows: “(e) Avoiding or reducing work that creates additional exposures to dust, fumes, or smoke.”</p> <p>This comment did result in a change to the adopted rules language.</p>
<p>Exposure Controls, WAC 296-820-835, item two, it says that, Employer must implement effective exposure controls whenever feasible. It's mainly for the general contractors, and for general industry, when you're working inside the buildings. So as a general contractor, when most of the work is conducted outside, none of this would be feasible. And if you don't have to follow it, then I guess we don't have to follow it, but if you want us to follow it, if you would like us to provide those options of what we can do to make it feasible. The only thing that I see is applicable is when using work, Intensity, but other than that nothing else is applying for work outside.</p>	<p>The exposure controls listed in the rule are options that may be feasible for employers to implement. Some employers in the construction sector may be able to move work indoors, even for part of the day, but this may not be a feasible option for others. Additionally, reducing work intensity and providing additional rest periods is likely feasible for outdoor workers.</p> <p>This comment did not result in a change to the adopted rules language.</p>

<p>WAC 296-307-09835/296-820-835 Exposure controls Subsection (3)(e) – Delete the comma between “Avoiding” and “or.” It is not necessary.</p>	<p>Thank you for your comment.</p> <p>Grammar and punctuation issues were identified in this section.</p> <p>This resulted in a change to the adopted rules language.</p>
<p>WAC 296-820-840 and 296-307-09840 Respiratory Protection</p>	
<p>While currently rare, has DOSH carefully considered the technical and economic implications of their rule if the AQI is 500 and beyond for more than one day per year, including scenarios in which the AQI is at or above 500 for several days at a time?</p>	<p>Thank you for your comment.</p> <p>In developing the adopted rules, L&I considered the wildfire smoke regulations from California and Oregon, and the current best evidence on wildfire smoke exposure. Both Oregon and California require a full respiratory protection program when the AQI exceeds 500.</p> <p>In calculating the costs, L&I relied on the most recent five-year air quality data available to us to make the estimates of impact of the rule. This impact is averaged to a statewide level instead of a specific geographic area(s).</p> <p>This comment did not result in a change in the adopted rules language.</p>
<p>I work as a union electrician and more and more have to work in conditions where smoke is affecting our lives. L&I is proposing what? Giving out respirators to people who are affected? Well what happens if you have a big long beard like me? Those respirators become useless.</p>	<p>Thank you for your comment.</p> <p>For smoke exposures at or above 35.5 µg/m³ (AQI 101) but less than 500.4 µg/m³ (AQI 500), the rules require voluntary respirator use with no fit testing or medical evaluation as the least burdensome and more feasible alternative to a full respiratory protection program. This is consistent with California’s and Oregon’s wildfire smoke rules. In order to get fit-tested for tight-fitting respirators such as N95s, workers must be clean shaven and where use is required, workers must be clean shaven when wearing the respirators.</p> <p>Tight-fitting respirators such as N95s are not effective when facial hair, or other factors interfere with the ability of the respirator to seal</p>

	<p>to the face. The worker training material in the rule includes information on proper use of respirators so workers are aware and can take steps to increase the protection of the respirators if they want to do so. The training material clarifies that to receive the best protection, workers should shave when using voluntary use N95s.</p> <p>This comment did not result in a change to the adopted rules language.</p>
<p>I've been working in these wildfire conditions now for the past 5 years every summer, and every summer it's the same when smoke gets bad they pass out respirators and nobody goes home because none of us want to get laid off, these proposed rules seem like nothing more than a half measure and not for the workers at all.</p>	<p>Thank you for your comment.</p> <p>The adopted rules require employers to provide respirators for voluntary use when the PM_{2.5} reaches 35.5 µg/m³ (101 AQI), and require the use of respirators when the PM_{2.5} reaches 500 µg/m³ (500 AQI).</p> <p>In consideration of this comment, L&I modified the language of the Exposure Symptom Response sections (WAC 296-820-830 and 296-307-09830) of the adopted rules to more clearly describe employer obligations and employee rights when employees develop symptoms in the setting of wildfire smoke exposure. L&I also made corresponding changes in Appendix A of these adopted rules (WAC 296-820-850 and 296-307-09850).</p> <p>Under these sections, 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. Retaliation against employees seeking such medical attention or following medical advice is prohibited. In circumstances where the employer and employee both agree that medical attention is not necessary, employers must still 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. These employer obligations</p>

also exist when employees develop symptoms that require medical attention.

The development of symptoms in employees may indicate that exposures to wildfire smoke are inadequately controlled, and so employers must take additional steps as described in these sections to protect employees from further harm.

As described above, this comment resulted in changes to the adopted rules language. The text of the adopted rules as modified subsequent to the release of the proposed rules is as follows:

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;

	<ul style="list-style-type: none"> • 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. <p>(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.</p> <p>Corresponding changes have been made throughout Appendix A.</p>
<p>WAC 296-307-09840/296-820-840 Respiratory protection. We believe the PM_{2.5} thresholds and the corresponding employer-employee actions listed in this section are reasonable.</p> <p>Subsection (2) – Delete the comma between “employees” and “and.” It is not necessary.</p> <p>Subsection (2)(b) – Delete the comma between “known” and “and.” Delete the comma between “accessible” and “to.” They are not needed.</p> <p>Subsection (3) – Delete the comma between “employee” and “and.” It is not necessary.</p>	<p>Thank you for your comment.</p> <p>L&I reviewed and considered all feedback submitted related to grammar, punctuation, style, etc., and made a number of updates were made to the adopted rule based on those recommendations.</p> <p>This comment resulted in a change to the adopted rules language.</p>

Subsection (4) – The words “of this chapter” do not seem necessary and could be removed.

Subsection (5) – The words “of this chapter” do not seem necessary and could be removed.

Subsection (8) – Delete the comma between “order” and “and.” Rephrase the sentence that reads:

“Replace or repair any respirator that is not functioning properly, and do not permit their use.” This sentence, as written, instructs employers to prohibit the use of respirators that have been repaired or replaced. We suggest rewriting this sentence thus: “Do not permit the use of any respirator that is not functioning properly. Repair or replace these respirators before they are used.” There are two instances of the words “filtering facepiece” in this subsection and two instances of those words in the notes to this section.

Earlier in this section, “filtering-facepiece” is hyphenated. We suggest consistently hyphenating “filtering-facepiece” when it modifies “respirator.”

Delete the comma after “Dispose” and insert the word “of,” so that the sentence reads: “Dispose of and replace any filtering-facepiece respirator that is dirty,…”

Notes, second bullet point – The words “of this chapter” (used twice) do not seem necessary and could be removed.

We suggest moving the phrases that begin with “such as” closer to the nouns they modify.

<p>As such, this bullet point could be rewritten as follows: “For voluntary use of filtering-facepiece respirators, such as N95 respirators, some of the requirements of</p> <p>WAC 296-307-594 through 296-307-622, 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 from WAC 296-307-594 through 296-307-622, such as medical evaluations and establishing a respiratory protection program, apply.”</p> <p>Notes, third bullet point – The words “of this chapter” do not seem necessary and could be removed.</p> <p>We suggest moving the phrase that begins with “such as” closer to the nouns it modifies.</p> <p>As such, this bullet point could be rewritten as follows: “For voluntary or required use of loose-fitting powered air Purifying respirators, some of the requirements of WAC 296-307-594 through 296-307-622, such as fit testing and requiring workers to be clean shaven, do not apply.”</p>	
<p>We appreciate the Department’s work toward protecting our industry’s most valuable asset: its workers. Thank you for the opportunity to comment again on the permanent rule. Are members emphasize guidance on measuring AQI for the transportation sector while in the cab of a vehicle and continue to question whether N-95 masks are better reserved for the healthcare industry when KN-95 masks would suffice for general air quality issues.</p>	<p>Thank you for your comment.</p> <p>A respirator is a form of personal protective equipment certified by the National Institute of Occupational Safety and Health (NIOSH), and stop air contaminants from reaching the lungs. KN95 masks are not NIOSH-certified, and do not provide adequate protection against wildfire smoke. KN95 facemasks used widely during the COVID-19 pandemic were permitted in lieu of respirators during the declared</p>

<p>The 2021 emergency rule allowed employers to provide KN95 filtering facepiece respirators during the 2021 wildfire season. KN95 respirators have been used effectively by many companies who purchased large quantities for the 2021 rule. In industries such as waste collection, KN95 masks are easier for employees to use while performing their job duties than N95 respirators.</p> <p>At the very least, the Department should conduct a cost-benefit analysis on KN95s and N95s, along with appropriate AQI thresholds before the final rule.</p>	<p>state of emergency specifically to address supply chain issues related to N95s.</p> <p>There are no longer shortages of N95s, so employers will not be allowed to use KN95s to comply with the respirator requirements in the wildfire smoke rules.</p> <p>This comment did not result in a change in the adopted rules language.</p>
<p>A complete employer respiratory protection program should be implemented at the PM_{2.5} Breakpoint level of 250.5 µg/m³ (AQI 301), rather than at 500.4 µg/m³ (AQI 500) as proposed, to ensure the safety and protection of our workers. It is important to note that a PM_{2.5} of 250.5 µg/m³ (AQI 301) is considered hazardous for exposed workers, and at this level, the air quality is extremely poor, with a high concentration of wildfire pollutants.</p>	<p>Thank you for your comment.</p> <p>There are no documented safe levels of PM_{2.5}. In determining the exposure thresholds and other requirements for the rules, L&I considered the wildfire smoke regulations from California and Oregon, and the current best evidence on wildfire smoke exposure, in addition to stakeholder input and comments. L&I must also determine that the rules are least burdensome alternative that still achieves the goals and objectives of WISHA.</p> <p>L&I determined that it is currently feasible to implement a full respiratory protection program at 500.4 µg/m³, and determined it was infeasible to do so at lower PM_{2.5} concentrations. For more information on threshold selection, please see the cost-benefit analysis, located on L&I’s website.</p> <p>This comment did not result in a change in the adopted rules language.</p>
<p>When we work indoors during fire season, many of the facilities we work in do not have air filtration systems that can handle high level PM_{2.5}, so workers are being exposed indoors during fire season as well.</p>	<p>Thank you for your comment.</p> <p>This scope of this rulemaking activity was specific to outdoor workers. Under Washington’s Administrative Procedures Act, an</p>

	<p>agency must provide notice of the subject of the rulemaking and the purpose. As such, L&I is not able to address indoor exposures without mechanical ventilation. L&I will consider whether future rulemaking is needed.</p> <p>This comment did not result in a change to the adopted rules language.</p>
<p>This rule requires employers to provide respirators to employees for voluntary use, which contradicts existing regulations indicating they are not required to do so. Further, it requires respirators – an enrollment in a respiratory protection program – at concentrations well below those associated with any other airborne contaminant.</p> <p>Use of respirators is “encouraged” until PM_{2.5} concentrations reach 500.4 µg/m³. To that level, their use is voluntary. Under the Respirators standard (WAC 296-842), employers are not required to permit voluntary use, and where permitted there is no requirement for employers to provide respirators for voluntary use. This is further reinforced in the Safety & Health Core Rules, WAC 296-800-16020, which states explicitly under Table X that employers are not required to pay for dust masks and respirators for voluntary use.</p> <p>This new rule contradicts those precedents, and requires employers to provide respirators to all employees for voluntary use at an extremely low concentration – even when those employees have not requested them, and often will not wear them. Employers are required to provide respirators for use with smoke, but would not be required to do the same for comparable concentrations of silica</p>	<p>Thank you for your comment.</p> <p>The adopted rule requires respirators to be made available for voluntary use when the concentration of PM_{2.5} reaches 35.5 µg/m³. Employees are not required to take, or use respirators at this level. At 250.5 µg/m³ the rule requires employers to directly distribute respirators to all employees.</p> <p>The requirements in the adopted rule are specific to the hazard of wildfire smoke. The nature of exposure, health impacts, and feasibility considerations required alternate approaches to those taken to address employer-generated exposures to other substances.</p> <p>Voluntary use respirators as they exist in other rules only apply when there are no hazardous exposures, while voluntary use under the adopted rule recognizes that there is a hazard at the PM_{2.5} thresholds in the rule. However, feasibility considerations created barriers to requiring a complete required-use respiratory protection program for all outdoor workers at the thresholds covered by the rule. Requiring employers to provide respirators for voluntary use is a way of addressing the feasibility concerns, while also ensuring employees have protective measures available.</p> <p>Chapter 296-842 WAC is a horizontal standard that cover a multitude of hazards across multiple industries. The adopted rule, which is a vertical standard, covers the unique hazard of wildfire smoke specifically, which is why the rule deviates from the existing</p>

<p>dust, welding fumes, alumina, or any of several pesticides regulated as particulates. In fact, of the approximately 60 contaminants with an identified PEL as particulate found in WAC 296-841, Airborne Contaminants, none require any respiratory protection at the concentration where this rule requires participation in a respiratory protection program. The lowest PEL is for natural graphite as particulate, and is 2.5 mg/m³ – five times higher than the 500.5 µg/m³ where this rule mandates a respiratory protection program.</p> <p>Reference to WAC 296-841, Airborne Contaminants, creates a conflict as the applicable level in that chapter is 10x greater than the levels established by this rule.</p>	<p>requirements in chapter 296-842 WAC, and require employers to provide respiratory protection for voluntary use. The relationship between the wildfire smoke rules and chapter 296-842 WAC, Respirators and chapter 296-841 WAC, Airborne Contaminants is discussed in L&I’s cost benefit analysis for the wildfire smoke rule.</p> <p>This comment did not result in a change to the adopted rules language.</p>
<p>This rule allows for the use of N95 respirators from 20.5 to 554.9 µg/m³. It ignores the requirement to conduct hazard evaluations in the Airborne Contaminants standard (WAC 296-841) and referenced in the respirator standard (WAC 296-842). Based on the Assigned Protection Factor (APF) of 10 for N95 respirators, a user wearing an N95 at a PM_{2.5} concentration of 554.9 µg/m³ remains exposed to 55.49 µg/m³ inside the N95. If this level is acceptable in spite of PPE, then there should be no requirement to provide PPE below that level.</p> <p>If it is permissible to have an employee breathing particulate concentrations of 55.5 µg/m³ inside an FF APF, there should be no PPE requirement for general employees at an ambient level below 55.5 µg/m³. Employees with sensitivities to smoke can be protected by individual accommodations.</p>	<p>Thank you for your comment.</p> <p>The wildfire smoke rules are designed to cover PM_{2.5} from wildfire smoke, rather than workplace-generated particulate matter.</p> <p>WISHA mandates L&I adopt health and safety standards and the control for harmful physical agents which “to the extent feasible, on the basis of the best available evidence, that no employee will suffer material impairment of health or functional capacity.” In determining the exposure thresholds and other requirements for the rules, L&I considered the wildfire smoke regulations from California and Oregon, and the current best evidence on wildfire smoke exposure, in addition to stakeholder input and comments. L&I must also determine that the rules are least burdensome alternative that still achieves the goals and objectives of WISHA.</p> <p>L&I must make these determinations for each requirement in the rule. L&I determined that voluntary respiratory use without fit testing was feasible and least burdensome for PM_{2.5} concentrations between 35.5</p>

	<p>and 500 µg/m³. L&I further determined that required respirator use of an N95 respirator, with a full respiratory protection program including fit testing, for PM_{2.5} concentrations between 500.4 and 555 µg/m³ was feasible and the least burdensome.</p> <p>Additionally, outdoor workers are uniquely exposed to higher levels of particulate air pollution, including wildfire smoke, compared to the general public and are regarded by Washington State and EPA to be a “sensitive group” with respect to particulate air pollution.</p> <p>This comment did not result in a change in the adopted rules language.</p>
<p>WAC 296-820-840(4)(c): The note following this section limits the scope, and should be moved to WAC 296-820-805.</p>	<p>Thank you for your comment.</p> <p>The note was moved into the body of the rule and the following addition was made to 296-820-840(4):</p> <p>(4)(d) 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.</p> <p>This comment resulted in a change in the adopted rules language.</p>
<p>The note in WAC 296-820-840(4)(c) effectively creates a STEL where one already exists. WAC 296-841, Airborne Contaminants, already has a STEL of 10 mg/m³ for the respirable fraction of particulates not otherwise regulated, and a TWA of 0.5 mg/m³ for the same. This chapter establishes limits at levels 10 times lower than previous.</p>	<p>Thank you for your comment.</p> <p>The wildfire smoke rules are designed to cover PM_{2.5} from wildfire smoke, rather than workplace-generated particulate matter. As discussed in the cost-benefit analysis, the regulatory threshold under chapter 296-841 WAC is designed to cover particulates that are unregulated elsewhere, including nuisance dusts, WAC 296-841-099 defines, in part, nuisance dust as dust that. “when inhaled, have little adverse effect on the lungs and do not produce significant organic disease or toxic effect when exposures are kept under reasonable control.” Given the broad range of adverse health effects caused by PM_{2.5} exposure from wildfire smoke, the regulatory threshold for “particulates not otherwise regulated” under chapter 296-841 WAC is</p>

	<p>not appropriate to address the hazard caused by particulate pollution from wildfire smoke.</p> <p>The time limit of 15 minutes or less in a 24-hour period applies specifically to the exemption from required respirator use for PM_{2.5} exposures under the adopted rules and is based on feasibility considerations. The requirements for voluntary respirator use still applies.</p> <p>This comment did not result in a change in the adopted rules language.</p>
<p>296-820-840 effectively ignores the “hierarchy of controls” concept. It mandates provision of PPE at threshold levels without adequate consideration of the possibility of engineering or administrative controls. Employees can be effectively protected through these measures, including employee rotations. Accommodating these alternatives would protect employees without creating requirements for continuous monitoring of PM_{2.5} concentrations and adjustment as various trigger values are reached.</p>	<p>Thank you for your comment.</p> <p>In determining the exposure thresholds and other requirements for the rules, L&I considered the wildfire smoke regulations from California and Oregon, and the current best evidence on wildfire smoke exposure, in addition to stakeholder input and comments. L&I must also determine that the rules are least burdensome alternative that still achieves the goals and objectives of WISHA.</p> <p>Wildfire smoke presents many unique challenges. Since the source of the exposure is not controlled by the employer, elimination and substitution are not a feasible option. This leaves engineering and administrative controls as the most effective options, and PPE is used as a last line of protection to exposed workers. Working indoors with proper ventilation and air filtration is the best way to reduce worker exposure to wildfire smoke. However, this is not feasible for all work. The requirements in this rule describe the minimum protections that employers must implement to protect the health of their employees from the hazards of wildfire smoke when they choose to perform work under the scope of the rule.</p> <p>This comment did not result in change to the adopted rules.</p>

<p>Due to concerns of health impacts at low levels of PM_{2.5} exposure, we encourage further consideration of PM_{2.5} thresholds lower than 250.5 µg/m³ to relocate workers experiencing adverse symptoms requiring medical attention (WAC 296-307-09830).</p> <p>We also encourage consideration of a lower PM_{2.5} threshold for requirements to use a respiratory protection program and particulate respirators (WAC 296-307-09840).</p>	<p>Thank you for your comment.</p> <p>While the threshold to relocate workers is set at 250.5 µg/m³, employers are required to allow employees displaying symptoms of wildfire smoke exposure to seek medical attention or follow any medical advice they have received at any threshold under the scope of the rule. Additionally, employers must monitor any employee displaying symptoms of wildfire smoke exposure to determine if medical attention is necessary.</p> <p>Wildfire smoke poses a respiratory hazard at all concentrations covered by these rules. L&I determined that it is currently feasible to implement a full respiratory protection program at 500.4 µg/m³. It was also determined that it was not feasible to do so at lower PM_{2.5} concentrations.</p> <p>This comment did not result in a change to the adopted rules language.</p>
<p>WAC 296-307-09840 and 296-820-840 state that employers are encouraged to provide respirators upon employee request at AQI from 69 to 100, then that employers must provide and encourage the use of respirators at AQI from 101 to 300. Such language reflects the dangers of exposure to elevated AQI but fails to ensure that employees have the appropriate equipment when it is necessary.</p> <p>Given the current draft’s loose requirements on AQI measurement times, it is possible that a “safe” morning AQI, not requiring provision of respirators, becomes unsafe before a new measurement is taken. In such a situation the current draft would not require employers to distribute respirators before the air quality becomes unsafe.</p>	<p>Thank you for your comment.</p> <p>Although wildfire smoke poses a respiratory hazard at all concentrations covered by these rules, L&I has determined that requiring a full respiratory protection program at PM_{2.5} concentrations below 500.4 µg/m³ is currently infeasible. L&I is permitting voluntary use of respirators instead of required use of respirators in response to the hazard of wildfire smoke for most of the PM_{2.5} concentrations anticipated by these rules.</p> <p>L&I has concluded that workers will have better protections against the wildfire smoke hazard when voluntarily wearing respirators compared to wearing no respirators, while addressing the feasibility constraints of a requirement for a comprehensive respiratory protection program implemented at PM_{2.5} concentrations below 500.4 µg/m³.</p>

<p>We suggest tightening the respirator distribution requirement to mandate provision of respirators to employees at AQI between 69 and 100, then to require employers to instruct employees to wear the respirators at AQI above 101. As suggested by other comments, respirator use should become mandatory at AQI 151 and above. Exposure to AQI above 150 is unhealthy for everyone.</p> <p>We are also concerned by the omission of fit-test requirements in the current draft. WAC 296-842-15005 and 296-842-22010 do not require fit-testing when respirator use is voluntary, and this section makes fit-testing voluntary at all but the most dangerous AQI levels.</p> <p>Improperly fitted respirators provide little protection, therefore the rule language should be changed to require fit-testing whenever masks are distributed. Fit-testing does not take long and is relatively simple to train managers to perform, so this requirement should not impose a significant burden on employers.</p>	<p>This comment did not result in a change to the adopted rules language.</p>
<p>Many respirators cannot provide a full seal when workers have facial hair. In cases where workers maintain facial hair as a part of their sincerely held religious beliefs, employers must make a good faith effort to accommodate those workers' religious dress and appearance requirements.</p> <p>Employers should provide masks that can accommodate facial hair while still protecting workers, as many of these masks are commercially available. We suggest an explicit acknowledgment of this need, as below. Suggested changes are <u>underlined</u>.</p>	<p>Thank you for your comment.</p> <p>There are loose-fitting respirators available that can be used effectively by bearded workers in the majority of situations where respirators are required. Employers of individuals with facial hair may choose to provide such loose-fitting respirators.</p> <p>This comment did not result in a change to the adopted rules language.</p>

<p>WAC 296-307-09840 Respiratory Protection ... <u>(9) Where employees who maintain facial hair for religious reasons are present, employers must provide a sufficient quantity of respirators that fit and seal over facial hair to accommodate these employees. Employers may make other reasonable accommodations to protect workers who maintain facial hair for protected religious reasons if the provision of sealing masks is an undue burden.</u></p>	
<p>Set a threshold of AQI 51 (12.1 $\mu\text{g}/\text{m}^3$ PM_{2.5}) at which employers are required to provide respirators to employees upon request.</p> <p>Since some sensitive groups experience symptoms in the AQI 51 – 100 range, employers must be required, not encouraged, to provide respirators to workers upon request when the AQI is 51 or above.</p>	<p>Thank you for your comment.</p> <p>In determining the exposure thresholds and other requirements for the rules, L&I considered the wildfire smoke regulations from California and Oregon, and the current best evidence on wildfire smoke exposure, in addition to stakeholder input and comments. L&I must also determine that the rules are least burdensome alternative that still achieves the goals and objectives of WISHA.</p> <p>There are multiple sources of ambient air pollution that can bring PM_{2.5} levels up to 20.5 $\mu\text{g}/\text{m}^3$. As the rule is focused on PM_{2.5} from wildfire smoke, the scope of the rule starts at 20.5 $\mu\text{g}/\text{m}^3$ (AQI 69).</p> <p>While employers are encouraged to do so, L&I did not determine that it would be economically feasible to require employers to provide respirators for voluntary use below 35.5 $\mu\text{g}/\text{m}^3$ (AQI 101). L&I is permitting voluntary use of respirators instead of required use of respirators in response to the hazard of wildfire smoke for most of the PM_{2.5} concentrations anticipated by these rules.</p> <p>This comment did not result in a change to the adopted rules language.</p>
<p>Lower the threshold at which respirator use becomes mandatory to AQI 251 (200.9 $\mu\text{g}/\text{m}^3$).</p>	<p>Thank you for your comment.</p>

The requirement for mandatory respirator use at WAC 296-307-09840 does not enter into force until the AQI reaches 500, equivalent to a PM concentration of 500.4 $\mu\text{g}/\text{m}^3$ (beyond the AQI index).

As stated at WAC 296-307-09840 (2) and (3):

(2) “Where the current $\text{PM}_{2.5}$ is 35.5 $\mu\text{g}/\text{m}^3$ (AQI 101) to 250.4 $\mu\text{g}/\text{m}^3$ (AQI 300), the employer must provide N95 filtering-facepiece respirators at no cost to all exposed employees, and must encourage respirator use...”

(3) “Where the current is 250.5 $\mu\text{g}/\text{m}^3$ (AQI 301) to 500.3 $\mu\text{g}/\text{m}^3$ (AQI 499), the employer must distribute N95 filtering-facepiece respirators directly to each exposed employee, and must encourage respirator use.”

The threshold in the proposed rule is too high. According to EPA, at AQI 200 – 300, air quality is very unhealthy and the risk of health effects is increased for everyone. An AQI of 301 and higher is considered hazardous by EPA, and triggers the following warning: “Health” warning of emergency conditions: everyone is more likely to be affected.

Yet at this AQI, the proposed rule only requires that employers “encourage respirator use.”

Workers who are not required to wear respirators in these conditions may underestimate the severity of the risk as long as respirator use remains “optional” and decide not to wear respirators. These workers are more likely to suffer harm as a result.

By contrast, Oregon’s Rules to Address Employee Exposure to Wildfire Smoke (OAR

In determining the exposure thresholds and other requirements for the rules, L&I considered the wildfire smoke regulations from California and Oregon, and the current best evidence on wildfire smoke exposure, in addition to stakeholder input and comments. L&I must also determine that the rules are least burdensome alternative that still achieves the goals and objectives of WISHA.

L&I is permitting voluntary use of respirators instead of required use of respirators in response to the hazard of wildfire smoke for most of the $\text{PM}_{2.5}$ concentrations anticipated by these rules. L&I has concluded that workers will have better protections against the wildfire smoke hazard when voluntarily wearing respirators compared to wearing no respirators, as it has been determined that requiring a full respiratory protection program at $\text{PM}_{2.5}$ concentrations below 500.4 $\mu\text{g}/\text{m}^3$ is currently infeasible. For a more detailed discussion of threshold selection, see the cost-benefit analysis, available on L&I’s website.

This comment did not result in a change to the adopted rules language.

<p>437-002-1081) require that: “Whenever employee exposure to PM_{2.5} is at or above 200.9 µg (AQI 251), even after the implementation of engineering and administrative controls, [employers] ensure that employees wear appropriate NIOSH-approved filtering facepiece respirators when such use would not expose the wearer to a hazard associated with a substantially more serious injury or illness than the potential acute health effects of wildfire smoke exposure.”</p> <p>Oregon sets the threshold for mandatory respirator use at the midpoint of the “very unhealthy” range (AQI 251) and makes exceptions for workers who may suffer greater harm by wearing a respirator than by continuing to be exposed to these very unhealthy air quality conditions, as is the case with individual suffering from certain heart or lung ailments. This threshold strikes a balance between allowing workers some freedom to weigh simultaneous risks—such as the risk of smoke exposure versus the increased risk of heat stress from wearing respirators—and protecting the respiratory and cardiovascular health of workers when PM_{2.5} air pollution is simply too high. We recommend that the state of Washington adopt a similar threshold.</p>	
<p>Please specify all respirators as N95s up until they are required. WAC 296 – 307 – 09840(1) requires employers to encourage employees to wear “respirators.” This will help employers avoid other unrelated respiratory protection requirements.</p> <p>Specifying N95s will ensure respirators are NIOSH approved. When a written respirator program is required, (6) and (8) will be redundant of the respirator rule.</p>	<p>Thank you for your comment.</p> <p>The rule language specifies N95 filtering-facepiece respirators for voluntary use. The rules also specify that “Respirators must be NIOSH-approved devices that effectively protect the wearers from inhalation of wildfire smoke”.</p> <p>Employers may elect to provide reuseable elastomeric respirators to satisfy these requirements. The rule includes a note clarifying that “Elastomeric respirators equipped with P100 filters may be used in</p>

<p>The notes under the respirator code contradict themselves.</p>	<p>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.”</p> <p>This comment resulted in a change to the adopted rules language.</p>
<p>I just want to thank the Department for allowing us to have the opportunity to just voice some comments or opinions. Basically, we're in support. I represent contractors that work out on the power line utilities. So you have, under definitions the Emergency Response. There was initially, like, kind of exemptions. Those have been taken out, and you're just using this definition.</p> <p>When it comes to respirators, it talks about, during Emergency Response: to the best of the ability for respirators. We work in an industry where there are no respirators that have FR qualities for protection on arc flashes. So I'd really like the Department to look at that again and help clarify because it's pretty vague on what we're supposed to be doing or not doing.</p>	<p>Thank you for your comment.</p> <p>The rule requires that respirators be implemented as feasible during emergency response work, as defined in the rule. The language in the rule was written in collaboration with stakeholders from utilities to ensure feasibility. If there exist commercially-available respirators that can be safely used along with other applicable PPE when there are arc flash hazards present, the employer would be required to implement the use of those respirators.</p> <p>In situations where respirators are not feasible or introduce a greater hazard, respirators may be removed for the time needed to complete the task safely. For example, a respirator would be worn while the work is planned, and preparations are being made. When it is time to complete the work for which respirators are not feasible, the respirator would be removed. Once it is again safe, the respirator would be put on again.</p> <p>This comment did not result in a change to the adopted rules language.</p>
<p>For an AQI of under 500 in regard to respirator use. I don't quite understand how we're going to be viewed in regard to compliance for directly distributing respirators once we're at an AQI of 301. Especially if we have, say, 100-plus people on our project site. And some job sites are larger. It's not mandatory use, but then it's also at the threshold greater than 101. So we have to directly distribute at AQI of 301. And I'm not really sure how that's going to look, if</p>	<p>Thank you for your comment.</p> <p>Directly distributed means each employee has been handed a N95 respirator. Enforcement staff will both look to see if employees have N95s on them and also ask additional questions during employee interviews to determine compliance. If a worker does not happen to have the respirator on their person, they should be able to show where they have put the mask they were given, or indicate that they did</p>

<p>a respirator has been distributed, N95s directly distributed to a person, is if they physically have it on their hip or their side or they're wearing it. How is the Department going to determine if somebody has been distributed an N95 directly, if they choose not to wear it?</p>	<p>receive a respirator. DOSH compliance will only issue a citation where they have adequately documented a violation. Employers are encouraged to document the methods used to directly distribute respirators to all employees.</p> <p>This comment did not result in a change to the rule language.</p>
<p>The other question I had was in scenarios where it's still considered to be voluntary use. So that, I assume that's an AQI of under 500, but over 100, it's all considered voluntary use of an N95. And if I understand it right, when it has to do with this particular standard, when you're dealing with Wildfire Smoke particulate, voluntary use in this scenario does not require a person to be clean shaven or any other parts of the other respirator program at all. But what if they are also involved with, say, silica work that would require the use of an N95? How would we determine which standard we're going to go by in regard to the respirator use? Because you cannot have a person with a beard wearing an N95, especially in regard to silica work, but all of a sudden if it's voluntary use for Wildfire Smoke, apparently they can have a beard. And I'm a little confused on that issue.</p>	<p>Thank you for your comment</p> <p>If workers are exposed to more than one regulated substance, employers must comply with both rules. Where both involve respiratory protection requirements, the employers must comply with the most protective requirements. Required respirator use under the silica standard requires a full respiratory protection program with fit testing, medical evaluations, and workers clean-shaven if wearing tight-fitting respirators. This is the more restrictive standard than voluntary use under the wildfire rules.</p> <p>This comment did not result in a change to the adopted rules language.</p>
<p>In 307-09840 respiratory protection, I would request that the Department consider changing the language in 09840(2) from the employer must provide N95 filtering-facepiece respirators to the employer must make available N95 filtering-facepiece respirators.</p>	<p>Thank you for your comment.</p> <p>WISHA mandates that L&I “[p]rovide for the promulgation of health and safety standards and the control of conditions in all workplaces concerning...harmful physical agents which shall set a standard which most adequately assures, to the extent feasible, on the basis of the best available evidence, that no employee will suffer material impairment of health or functional capacity.” As such, L&I’s role is to adopt rules that set standards to protect against occupational hazards that are feasible. The existing language was determined to be feasible to implement and provides protection to employees.</p>

	<p>When the PM_{2.5} is 250.5 µg/m³ (AQI 301) to 500.3 µg/m³ (AQI 499), the hazard to employees is substantial, and by directly distributing respirators to employees, all barriers to access are removed with the intent of further encouraging respirator use. L&I considered the option of requiring a full respiratory protection program at this hazardous level of PM_{2.5}, but determined that this was currently infeasible.</p> <p>L&I also considered requiring mandatory use of N95s at this level without fit testing. It was determined that the requirement to directly distribute the N95s was the less burdensome and more feasible alternative in consideration of stakeholder input and risk of additional harm to some workers from respirator use without a medical evaluation and other respiratory program elements that would ensure safe and effective use.</p> <p>This comment did not result in a change to the adopted rules language.</p>
<p>We ask that the department clarify the proposed rule language relating to respiratory protection at AQI levels between 101 and 301. While the use of respiratory protection is still voluntary at each of these levels, we ask that you clarify that “provide” means to make available and to not actually distribute PPE to employees who may not want to use it. We wish to avoid the waste of equipment.</p>	<p>Thank you for your comment</p> <p>The rule states that “Where the current PM_{2.5} is 250.5 µg/m³ (AQI 301) to 500.3 µg/m³ (AQI 499), the employer must distribute N95 filtering-facepiece respirators directly to each exposed employee”. Distributing the respirators to each worker directly is the intent of the requirement to ensure there are no barriers to employees accessing protective measures at these very high levels of PM_{2.5}.</p> <p>When the current PM_{2.5} is 35.5 µg/m³ (AQI 101) to 250.4 µg/m³ (AQI 300), employers do not need to directly distribute respirators, and can instead ensure that N95s are available to employees who want them. If employers select this option, they must “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</p>

	<p>employees in a manner that does not restrict or hinder employee access to obtain and replace respirators when needed.” WAC 296-820-840(2)(b) and 296-307-09840(2)(b).</p> <p>When the PM_{2.5} is 250.5 µg/m³ (AQI 301) to 500.3 µg/m³ (AQI 499), the hazard to employees is substantial, and by directly distributing respirators to employees, all barriers to access are removed with the intent of further encouraging respirator use. L&I considered the option of requiring a full respiratory protection program at this hazardous level of PM_{2.5}, but determined that this was currently infeasible.</p> <p>L&I also considered requiring mandatory use of N95s at this level without fit testing. It was determined that the requirement to directly distribute the N95s was the less burdensome and more feasible alternative in consideration of stakeholder input and risk of additional harm to some workers from respirator use without a medical evaluation and other respiratory program elements that would ensure safe and effective use.</p> <p>This comment did not result in a change to the adopted rules language.</p>
<p>Our biggest concern is when we get to that point where we're at 500 or more, we have to by regulatory regulations, respond to emergencies. It could be a burden or tough for us to fit-test and do medical evals for up to 200 people depending on who needs to respond. We have regular responders and we have backups, vacation, sickness. We need to be prepared for that.</p> <p>All of our people get the N95s, we get that and we make that voluntary, and that's in our program which we've had for a long, long time. So clarification, we want to make sure, we are within the exemption, because have to respond to certain emergencies. So we want to make sure and get</p>	<p>Thank you for your comment.</p> <p>The wildfire smoke rule emphasizes emergency planning so employers know how they will respond when wildfire smoke arrives. Employers that will require workers to continue performing work under the scope of the rule when respiratory use is required will need to prepare in advance fit-testing and medical evaluations. This includes planning for foreseeable emergencies and emergency response. L&I does recognize that unexpected emergencies do occur, and in situations where an employer is engaged in emergency response as defined in the rule, respiratory protection is only required where feasible.</p>

<p>clarification on that so we finalize our policy. Our wildfire and are heat policies have been around for a long time. We just want to make sure that we adhere to what Washington has adjusted in that Rule.</p>	<p>This comment did not result in a change to the adopted rules language.</p>
<p>Require that employers provide voluntary fit testing upon worker request. Workers can receive the highest level of protection from respirators with a fit test. Workers who want fit testing should be able to request and receive it to protect their health.</p>	<p>Thank you for your comment.</p> <p>Under the adopted rules, L&I permits voluntary use of respirators without fit-testing for most of the PM_{2.5} concentrations anticipated by these rules. L&I’s role is to adopt rules that set standards to protect against occupational hazards that are feasible. L&I did not determine that requiring more comprehensive respiratory protections, including fit-testing for voluntary use of respirators at PM_{2.5} concentrations below 500.4 µg/m³, is currently feasible.</p> <p>Due to constraints under the Administrative Procedure Act (RCW 34.05.340), L&I did not add requirements for voluntary use with fit-testing upon request into the adopted rules.</p> <p>This comment did not result in a change to the adopted rules language.</p>
<p>We are pleased that the department is no longer proposing to require a fit-test for the AQI levels under 499 for N95 respirator use. This would be burdensome to employees and employers alike, and we appreciate that the agency has reserved the measure for extreme conditions.</p>	<p>Thank you for your comment.</p> <p>This comment did not result in a change to the adopted rules language.</p>
<p>WAC 296-307-09840 Respiratory protection. Subsection (2) states that “[w]here the current PM_{2.5} is 35.5 µg/m³ (AQI 101) to 250.4 µg/m³ (AQI 300), the employer must provide N95 filtering-facepiece respirators at no cost to all exposed employees and must encourage respirator use.”</p> <p>This rule primarily relies upon “voluntary respirator use” and voluntary use does not necessitate fit testing requirements. Fit testing requires a medical evaluation to</p>	<p>Thank you for your comment.</p> <p>The voluntary use thresholds in this rule ensure that employees have access to protective equipment to reduce their exposure to wildfire smoke while still maintaining the ability to remove the respirator and move to clean air if they experience symptoms of wildfire smoke exposure. The training requirements in WACs 296-307-09825(2)(h) and 296-820-825(2)(h) are intended to provide employees with information about proper respirator use, risks, and limitations. Among</p>

<p>assess if an individual might have existing health conditions that may make use of an N95 respirator inappropriate for an individual. Additional consideration is needed here to further improve the ability of this rule to balance employee protections with inadvertent harm that could be posed by an individual using a respirator without having undergone a medical evaluation.</p> <p>To this end, we recommended that the threshold at which employers “must encourage respirator use” be adjusted to a higher AQI threshold of an AQI value of 151 or higher, coinciding with the AQI category of Unhealthy for All.</p> <p>This adjustment would better reflect a balanced risk approach from a harm-reduction stance at which the benefits of using an N95 respirator would likely exceed the potential harm posed by an individual using an N95 without having otherwise undergone medical evaluation. This would not negate the employer’s responsibility to make N95 respirators available for voluntary use. Instead, it would aim to change the threshold at which employers are actively encouraging their employees to use such provisions.</p>	<p>other things, the intent of this training provision is to allow employees to assess the risks and benefits of wearing unfitted respirators.</p> <p>L&I also considered requiring mandatory use of N95s without fit testing. It was determined that voluntary use of N95s was the less burdensome and more feasible alternative in consideration of stakeholder input and risk of additional harm to some workers from respirator use without a medical evaluation and other respiratory program elements that would ensure safe and effective use. Additionally, voluntary use of N95s in the wildfire smoke rules as currently constructed provides more consistency with voluntary use of respirators under chapter 296-842 WAC.</p> <p>This comment did not result in a change to the adopted rules language.</p>
<p>WAC 296-820-845 and 296-307-09845 Measuring PM_{2.5} Levels at the Worksite</p>	
<p>The requirements in WACs 296-307-09845 and 296-820-845 for the selection of air quality monitors appear sufficient, though, as other commenters have noted, an accessible list of compliant devices would likely ease implementation for employers and increase the likelihood that they acquire compliant monitors. We therefore suggest that the Division create such a list.</p>	<p>Thank you for your comment.</p> <p>If an employer chooses to have monitoring equipment at their worksite(s), the adopted rule has performance standards for monitors that can be purchased, which can be found in WACs 296-820-845 and 296-307-09845. The guidance is intended to set minimum standards for compliant monitors, rather than establish specifically approved devices that meet the requirements in the rule</p>

<p>However, the language of this section leaves open an enforcement question for non-compliant monitors. If our other suggestions regarding measurement time and location requirements are taken, clear guidelines for employer worksite PM_{2.5} measurement and compliance will be necessary. The language “if employer can demonstrate that it has complied with this section” is incomplete in that it does not state to whom the employer must demonstrate its compliance, or when. If the Division must wait for employee complaints to become aware of noncompliance, the rules will leave workers unprotected and undermine their own purpose. We therefore suggest the following changes to the rule language. Changes are <u>underlined</u>.</p> <p>WAC 296-307-09845 Measuring PM_{2.5} levels at the worksite. An employer may use a direct-reading particulate monitor to identify harmful exposures as required by WAC 296-307-09815 Identification of harmful exposures and <u>must use such monitors to identify worksite-specific exposure levels when required by that section. Employers may otherwise use direct-reading particulate monitors if such monitors comply with this section and meet the following requirements:</u></p> <p>...</p> <p><u>[New item] (5) For all employers that use direct-reading monitors, a log of monitor maintenance and reading dates and times must be kept and updated on each use. If the employer fails to maintain such a log, there shall be a presumption, rebuttable by clear and convincing evidence, that the employer violated this Section in the event of a wildfire smoke incident.</u></p>	<p>Federal and state regulatory monitors have stringent requirements for accuracy and precision, are regularly calibrated, and provide reliable information regarding the level of PM_{2.5} in the area being measured. While the regulatory PM_{2.5} monitoring network provides valuable information, many workplaces will be located some distance from the monitor, so the readings may not directly represent what is experienced at the worksite. However, worksites with a regulatory monitor nearby would likely receive more accurate data from the closest regulatory monitor rather than purchasing and using a commercially available air quality monitor.</p> <p>While worksite identification of PM_{2.5} could potentially provide information to employers, L&I did not determine that this option was not feasible in all cases. The adopted rules provide employers the option to conduct their own monitoring using commercially available monitors, but employers can also opt to reference the closest regulatory monitor instead.</p> <p>This comment did not result in a change to the adopted rules language.</p>
<p>I would request that the Department work with the agriculture industry and other industries for that matter in</p>	<p>Thank you for your comment.</p>

<p>finding and sourcing an understanding of the direct reading particulate monitors. If you have staff, industrial hygienists and others who have knowledge of that, I think we could use that assistance and understanding. It's not something that we're used to using.</p>	<p>L&I will consider this option.</p> <p>This comment did not result a change to the adopted rules language.</p>
<p>The cost of monitoring equipment services, yet another unfunded mandate of the government on the private sector. These mandates require cost to the public to increase incrementally putting the State in the position, on one hand, of calling for the private sector to keep costs down to the public, while being the tool that actually increases those costs.</p>	<p>Thank you for your comment.</p> <p>Employers have the option to use publicly available regulatory monitors to comply with the rule. Alternatively, employers may purchase direct reading instruments to assist with ease of compliance. However, this is not required.</p> <p>This comment did not result in a change to the adopted rules language.</p>
<p>Include acceptance of Federal Equivalent Method air monitors. We have installed monitors meeting the EPA EQPM-1013-209 reference standard in multiple locations. These are the same model that the South Coast AQMD uses as a reference standard for its testing, but as written, this section would does not appear to allow the use of those monitors for direct reading.</p>	<p>Thank you for your comment.</p> <p>Other monitors are acceptable for use provided they meet the minimum requirements for acceptability in WACs 296-820-845 and 296-307-09845.</p> <p>This comment did not result in a change in the adopted rules language.</p>
<p>WAC 296-820-850 and 296-307-09850 Appendix A: Protection from wildfire smoke information and training (mandatory)</p>	
<p>WAC 296-307-09850/296-820-850 Appendix A: Protection from wildfire smoke information and training (mandatory) Please see our general comments above regarding the consistency of standards because they pertain to this appendix. Subsection (1), paragraph that begins “Particulate matter” – We suggest changing the language to “particulate matter causes or likely causes cardiovascular...”</p>	<p>Thank you for your comment.</p> <p>L&I reviewed and considered all feedback submitted related to grammar, punctuation, style, etc., and made a number of updates were made to the adopted rule based on those recommendations.</p> <p>This resulted in a change to the adopted rules language.</p>

Subsection (1), paragraph that begins “It is especially” – Delete the unnecessary comma between “advice” and “or.”

Subsection (3), paragraph that begins “Employers must allow” – Change the comma after “seek medical treatment” to a period, delete “and,” and begin a new sentence with the words “Employers may...”.

Subsection (3), paragraph that begins “For more information” – Change “on” to “about” and “to file” to “filing.” This change ensures there is agreement between the preposition and the compound objects of that preposition. Change the semicolon after “complaint” to a comma.

Subsection (6) – Delete unnecessary comma after “plan” and insert “on” between “and” and “their procedures.”

Subsection (7)(a) – The words “filtering facepiece” are not hyphenated. Ensure the hyphenation is consistent with previous sections of these rules.

Subsection (7)(b), second paragraph – Place a period after “wildfire smoke exposure,” delete “and,” and begin a new sentence with “You.” If you make this change, you can change the semicolons to commas and make the sentence easier to read.

Subsection (7)(d) – The words “of this chapter” seem superfluous and could be deleted. Change “any” to “either,” since there are only two situations in the list that follows.

Subsection (8), second paragraph – Delete the unnecessary comma between “seal” and “and.”

Subsection (8), third paragraph – Delete the unnecessary comma between “asthma)” and “or.”

<p>Subsection (8), fourth paragraph – Delete “And” and simply begin the sentence with “If.”</p> <p>Subsection (9), first paragraph – The words “air purifying” should be hyphenated because they are a compound adjective. Ensure the hyphenation is consistent with previous sections of these rules.</p>	
<p>I feel that requiring hazard communication at just 20.5 $\mu\text{g}/\text{m}^3$ isn’t aligned with best risk communication practices. Most people on the east side of the state of Washington would perceive 20.5 $\mu\text{g}/\text{m}^3$ air as a nice day. I understand that DOSH is looking out for people with underlying health conditions, but if they are affected at such low concentrations, they really need a workplace accommodation as they would be affected by many other workplace exposures to particulate not covered by the smoke rule, and if they don’t disclose this condition to their employer, we have no means of protecting them.</p>	<p>Thank you for your comment.</p> <p>Research reviewed by L&I has found that $\text{PM}_{2.5}$ levels of 20.5 $\mu\text{g}/\text{m}^3$ (AQI 69) indicate that there is most likely wildfire smoke in the air. Since wildfire smoke levels can change quickly, the requirement for employee training and notification at this threshold is to ensure that workers have the baseline awareness of the hazard (as some individuals will experience health effects at 20.5 $\mu\text{g}/\text{m}^3$).</p> <p>Data indicates that all individuals may experience health effects from $\text{PM}_{2.5}$ at levels below what the current AQI breakpoints currently indicate; there is no concentration of $\text{PM}_{2.5}$ that is known to be safe. Additionally, outdoor workers are uniquely exposed to higher levels of particulate air pollution, including wildfire smoke, compared to the general public and are regarded by Washington State and EPA to be a “sensitive group” with respect to particulate air pollution.</p> <p>This comment did not result in a change in the adopted rules language.</p>
<p>AQI that is unhealthy for “sensitive groups” is AQI 101. What is the justification for allowing masks at AQI of 69 when 69 is in the “moderate” range and 101 is the AQI threshold which is “unhealthy for sensitive groups”? What good are the scientifically developed charts you are using if you are ignoring them and adopting arbitrary and unscientific new thresholds in the proposed rule?</p> <p>We question the threshold of AQI of 101 for mandatory provision of respirators for voluntary use. General rules</p>	<p>Thank you for your comment.</p> <p>The adopted rule thresholds are based upon ambient $\text{PM}_{2.5}$, which is the primary pollutant of public health concern in wildfire smoke. Conversions to the AQI are provided in the rule to make it easier for employers to comply.</p> <p>There are several reasons why L&I based the wildfire smoke rule on $\text{PM}_{2.5}$ rather than AQI:</p>

should be based upon healthy individuals, rather than the “least common denominator” approach.

To address those considered “sensitive groups,” we recommend that any employee that self-identifies as being in the “sensitive group” must notify the employer in advance, and if notified in advance, the employer then must provide a respirator at AQI of 101 for those employees. For all other “non-sensitive group” or normal, healthy employees, the provision of respirators for voluntary use should be at the “unhealthy” level of 151 rather than unnecessarily requiring the provision of respirators for healthy individuals at an AQI that is not considered unhealthy for them.

The Department needs to adhere to the AQI data in their own data and charts, rather than adopting the arbitrary new ranges as currently proposed (i.e. AQI of 69 rather than the supposedly scientifically developed threshold of 101 for sensitive groups, and AQI of 101 as the threshold for respirators for normal healthy individuals when the same charts show that 151 is the standard for unhealthy AQI for those people).

- Data indicates that all individuals may experience health effects from PM_{2.5} at levels below what the current AQI breakpoints currently indicate; indeed, there is no concentration of PM_{2.5} that is known to be safe,
- The AQI is not designed for use in the occupational environment,
- The AQI is not designed as a regulatory tool,
- AQI value and its associated health messages may specifically underestimate or inaccurately represent actual health risks to specific individuals and population subgroups, including outdoor workers (Cromar 2020),
- Basing the rule on mass concentration of PM_{2.5} instead of the AQI avoids the confusion arising from the composite nature of the AQI.

Additionally, outdoor workers are uniquely exposed to higher levels of particulate air pollution, including wildfire smoke, compared to the general public and are regarded by Washington State and EPA to be a “sensitive group” with respect to particulate air pollution.

Wildfire smoke exposure is a recognized hazard to outdoor workers. WISHA mandates that L&I “[p]rovide for the promulgation of health and safety standards and the control of conditions in all workplaces concerning...harmful physical agents which shall set a standard which most adequately assures, to the extent feasible, on the basis of the best available evidence, that no employee will suffer material impairment of health or functional capacity.” As such, L&I’s role is to adopt rules that set standards to protect against occupational hazards that are feasible. L&I conducted a cost-benefit analysis, which is available on L&I’s website

	<p>In determining the exposure thresholds and other requirements for the rules, L&I considered the wildfire smoke regulations from California and Oregon, and the current best evidence on wildfire smoke exposure, in addition to stakeholder input and comments. Additional information on threshold-setting is available in the CBA.</p> <p>This comment did not result in a change in the adopted rules language.</p>
<p>The research articles provided on the rulemaking website do not provide strong basis for regulation. They reinforce the knowledge that people with conditions such as asthma and COPD are more likely to have adverse reactions to wildfire smoke, as are young children and the elderly. They do not indicate a major concern among the working population, nor a need for increased regulation of general employees. Such vulnerable employees should be encouraged to communicate with their employers, and accommodations offered for those employees. No regulation for other employees is indicated.</p>	<p>Thank you for your comment.</p> <p>The list of research articles on L&I's website is not exhaustive. Data indicates that all individuals may experience health effects from PM_{2.5} at levels below what the current AQI breakpoints currently indicate; indeed, there is no concentration of PM_{2.5} that is known to be safe. Additional scientific information can be found in the cost-benefit analysis, available on L&I's website.</p> <p>This comment did not result in a change in the adopted rules language.</p>
<p>We are in support of establishing a permanent rule to protect outdoor workers from wildfire smoke.</p> <p>Outdoor workers are a sensitive group and are at increased risk of health impacts from wildfire smoke exposure due to their increased time outside and physical activity (higher inhalation rate).</p>	<p>Thank you for your comment.</p> <p>This comment did not result in a change to the adopted rules language.</p>
<p>While we appreciate the Page 6 Department's prioritizing wildfire smoke rules and looking out for employee safety, we do have a few concerns. Particularly we are concerned about the Air Quality Index and required protections chart. Using an AQI baseline that is unhealthy for sensitive individuals should not be the standard. Like many other circumstances, we believe the general wildfire smoke guidelines should be based upon average individuals, while</p>	<p>Thank you for your comment.</p> <p>The adopted rule thresholds are based upon ambient PM_{2.5}, which is the primary pollutant of public health concern in wildfire smoke. Conversions to the AQI are provided in the rule to make it easier for employers to comply.</p>

<p>those with sensitivities self-identify and appropriate commendations be provided for them.</p>	<p>There are several reasons why L&I based the wildfire smoke rule on PM_{2.5} rather than AQI:</p> <ul style="list-style-type: none"> • Data indicates that all individuals may experience health effects from PM_{2.5} at levels below what the current AQI breakpoints currently indicate; indeed, there is no concentration of PM_{2.5} that is known to be safe, • The AQI is not designed for use in the occupational environment, • The AQI is not designed as a regulatory tool, • AQI value and its associated health messages may specifically underestimate or inaccurately represent actual health risks to specific individuals and population subgroups, including outdoor workers (Cromar 2020), • Basing the rule on mass concentration of PM_{2.5} instead of the AQI avoids the confusion arising from the composite nature of the AQI. <p>Additionally, outdoor workers are uniquely exposed to higher levels of particulate air pollution, including wildfire smoke, compared to the general public and are regarded by Washington State and EPA to be a “sensitive group” with respect to particulate air pollution.</p> <p>L&I has provided detailed information regarding its considerations of threshold selection in the cost-benefit analysis, which is available on L&I’s website.</p> <p>This comment did not result in a change in the adopted rules language.</p>
<p>WAC 296-820-860 and 296-307-09860 Appendix B: Calculating the Air Quality Index for PM_{2.5} (nonmandatory).</p>	

<p>WAC 296-307-09860/296-820-860 Appendix C: Calculating the Air Quality Index for PM_{2.5} (nonmandatory)</p> <p>We believe this appendix, if it is going to be in these rules, should be placed immediately after the definitions because it describes the calculation for determining the Air Quality Index (AQI). Placing this information here provides knowledge of AQI standards before the reader begins to learn about how to identify harmful exposures using PM_{2.5} and AQI in proposed WAC 296-307-09815/296-820-815.</p>	<p>Thank you for your comment.</p> <p>The adopted rule is based on 1-hour average PM_{2.5} concentrations. The rule does permit employers to use the NowCast AQI for PM_{2.5} from select sources such as the EPA or WA Dept. of Ecology website. The AQI conversion was placed at the end as it is only included for reference, and it is not intended or required for employers to use. The AQI is a unitless index created by the EPA as a public health communication tool, and is subject to change at the discretion of the EPA. The inclusion of this equation at the end of the rule serves as both a demonstration of how the AQI is ultimately based on underlying PM_{2.5} data, and as a reference point to demonstrate the equation as it existed at the time the rule was created in the event that EPA makes changes to the equation in the future. It is worth noting that the AQI values shown on the EPA website use the NowCast, which averages PM_{2.5} readings over a 3-12 hour period, which prevents direct conversion between the values by employers.</p> <p>The adopted rule includes tables showing the allowable values for both 1-hour average PM_{2.5}, or the NowCast AQI for PM_{2.5} that employers may use. If employers choose to use both publicly available data, and data from their own monitors, it is recommended to use 1-hour average PM_{2.5} so both values can be compared.</p> <p>This did not result in a change to the adopted rules language.</p>
<p>We suggest officially dropping “Appendix C” and “nonmandatory” from the title. This proposed WAC is merely informational. It could also be deleted from the rules because it is not truly necessary.</p>	<p>Thank you for your comment.</p> <p>Appendix C has been renamed Appendix B due to other changes in the rules. The AQI is a unitless index created by the EPA as a public health communication tool, and is subject to change at the discretion of the EPA. The inclusion of this equation at the end of the rule serves as both a demonstration of how the AQI is ultimately based on underlying PM_{2.5} data, and as a reference point to demonstrate the</p>

	<p>equation as it existed at the time the rule was created in the event that EPA makes changes to the equation in the future. The table in Appendix B may also be useful for those employers and employees who would like to reference the corresponding public health messaging at the thresholds listed in the rules.</p> <p>This comment did not result in a change to the adopted rules language.</p>
General Comments	L&I Response
<p>This rule will create a significant burden for minimal benefit. It will be difficult to implement, especially for employers with many employees spread over a large area, multiple locations, or with a wide variety of duties. Its primary benefit will be to a small number of employees with certain conditions that make them vulnerable, and who can be reasonably protected under existing processes. Further, it attempts to protect workers from ambient conditions, to which they will continue to be exposed during non-work periods outside of the employer’s control. The likelihood that these employees will continue to wear respirators outside of working hours is near zero, so it is also very likely that any reduction in health impacts to these employees is similarly minimal.</p>	<p>Thank you for your comment.</p> <p>While the general public may reduce exposure to air pollution by both reducing time spent outdoor and modifying behaviors, outdoor workers in many occupational settings are unable to minimize exposure by moving indoors, changing location, lowering exertion, or otherwise altering occupational duties without adverse consequences. Due to their high exposures and the potential limited ability to control those exposures, outdoor workers are regarded by Washington State and EPA to be a “sensitive group” with respect to particulate air pollution. Outdoor workers also include those who, on an individual basis, are members of sensitive groups based on pre-existing conditions. However, the greater the PM_{2.5} concentration, the greater the health concern, and while the lower levels of exposure covered under the rule are considered unhealthy for sensitive groups under the current AQI breakpoints, as the concentrations get higher they are unhealthy for everyone. And data indicates that all individuals may experience health effects from PM_{2.5} at levels below what the current AQI breakpoints currently indicate; indeed, there is no concentration of PM_{2.5} that is known to be safe.</p> <p>Wildfire smoke exposure is a recognized hazard to outdoor workers. WISHA mandates that L&I “[p]rovide for the promulgation of health and safety standards and the control of conditions in all workplaces</p>

	<p>concerning...harmful physical agents which shall set a standard which most adequately assures, to the extent feasible, on the basis of the best available evidence, that no employee will suffer material impairment of health or functional capacity.”</p> <p>For significant legislative rules, L&I is required to conduct a preliminary and final cost benefit analysis showing that the benefits of the rule outweigh the costs.</p> <p>While an SBEIS was not required for the rule adoption, L&I did review the small business impact measures in RCW 19.85.030(2) prior to proposing the rule and we have updated the SBEIS memo to reflect the mitigation measures we considered and are taking.</p> <p>This comment did not result in a change to the adopted rules language.</p>
<p>Hydrologists and engineers use mathematical models to forecast the probability of extreme hydrologic events. What such models has DOSH used to estimate the future occurrence and severity of wildfire events and its potential impacts?</p>	<p>Thank you for your comment.</p> <p>L&I relied upon the average of PM_{2.5} levels from the recent five years in which the data were available (2017-2021) to approximate what the future PM_{2.5} levels would likely be.</p> <p>This comment did not result in a change to the adopted rules language.</p>
<p>My last concern about all of this is that LNI – and other key entities such as the AGs office and the staff of the Agricultural Compliance Unit – be vigilant about the serious challenges facing workers when they speak up and help bring “the rule” to life in a meaningful way. Retaliation is always a concern, especially given the complex and uncharted territory of outdoor workers facing more health risks and having to make difficult decisions about actions they take to protect their health, that of co-workers and of their families.</p>	<p>Thank you for your comment.</p> <p>Under WISHA, employers are prohibited from retaliating against a worker for exercising their rights under WISHA to a safe and healthful workplace. Specific to this rulemaking, the adopted rules includes language regarding prohibition from retaliation and that information is included in the worker training requirements.</p> <p>It is important to ensure workers understand their rights to protections and understand what to do if they experience retaliation. L&I inspectors, including those in the Agricultural Compliance Unit,</p>

	<p>provide information to employees during inspections about their rights to discrimination protections during the course of inspections.</p> <p>Recent changes to WISHA have increased worker protections and added employer sanctions related to safety and health discrimination. Under these changes, workers now have 90 days to file complaints with L&I. If L&I determines that retaliation occurred, we have authority to issue citations and notices and assessments with a monetary penalty to the employer and all appropriate relief for the worker.</p> <p>Additional information about employee protections from discrimination can be found on L&I's website: https://www.lni.wa.gov/workers-rights/workplace-complaints/discrimination-in-the-workplace</p> <p>This comment did not result in a change in the adopted rules language.</p>
<p>I have known workers that have felt threatened to complain of intolerable conditions, despite knowing it was harming their health. When allowed the option to work in unsafe conditions, many will risk their health to remain at work. Agricultural workers face multiple socioeconomic disadvantages, and a loss of job or income can be detrimental to themselves and their families.</p>	<p>Thank you for your comment.</p> <p>Under WISHA, employers are prohibited from retaliating against a worker for exercising their rights under WISHA to a safe and healthful workplace. Specific to this rulemaking, the adopted rules includes language regarding prohibition from retaliation and that information is included in the worker training requirements.</p> <p>It is important to ensure workers understand their rights to protections and understand what to do if they experience retaliation. L&I inspectors, including those in the Agricultural Compliance Unit, provide information to employees during inspections about their rights to discrimination protections during the course of inspections. Recent changes to WISHA have increased worker protections and added employer sanctions related to safety and health discrimination. Under these changes, workers now have 90 days to file complaints</p>

	<p>with L&I. If L&I determines that retaliation occurred, we have authority to issue citations and notices and assessments with a monetary penalty to the employer and all appropriate relief for the worker.</p> <p>Additional information about employee protections from discrimination can be found on L&I’s website: https://www.lni.wa.gov/workers-rights/workplace-complaints/discrimination-in-the-workplace</p> <p>This comment did not result in a change in the adopted rules language.</p>
<p>Realizing that a key to worker protection is attention to the issue of retaliation against workers who speak out about whether the rules themselves are adequate and contribute to worker health, are being implemented at the local level, and are being enforced by the State. L&I will need to build trust so that workers speak out by demonstrating total commitment, respectfully soliciting and listening to their experiences--and to the perspectives of worker-advocating agencies such as migrant community health providers.</p>	<p>Thank you for your comment.</p> <p>We agree that trust of L&I is critical. A key component of trust is good communication –listening with intention and speaking with credibility – in a language and format that invites participation. L&I has dedicated staff who perform education and outreach aimed at providing information to workers, including those with diverse backgrounds and whose primary language may not be English. L&I meets directly with workers, participates and shares information at community events, and partners with organizations in the community to help ensure that workers are provided information on how they may exercise their rights and advocate for their protections.</p> <p>Workers are entitled to protections from discrimination and retaliation. Employers may not fire an employee, or discriminate or retaliate against an employee, for exercising their rights, including those related to workplace safety and health. Additional information about employee protections from discrimination can be found on L&I’s website: https://www.lni.wa.gov/workers-rights/workplace-complaints/discrimination-in-the-workplace. L&I is always looking for ways of how we can reduce retaliation and will be taking a closer</p>

	<p>look at our processes to insure that we are doing everything within our jurisdiction to reduce retaliation.</p> <p>This comment did not result in a change to the adopted rules language.</p>
<p>I'm writing to offer support for a strong "Smoke Rule" for farmworkers, deemed "essential" during the pandemic, and those who work out-of-doors. I am concerned that in this era of changing climate, with more heat and smoke, those who work outside are often not well protected or protected at all. Often farmworkers are also not in a position to argue for their own health and safety, so these workers are especially in need of protection. We do not have the benefit of national effective heat and smoke rules, so Washington state's rules are even more important in setting the legislative pace.</p> <p>Key points I am concerned with are that workers working out-of-doors, particularly farmworkers and others, need protection from smoke in addition to heat. Farmworkers know what they need and I trust that Labor and Industries staff are in dialogue with them. Farmworker health needs to be protected and their rights ensured. They often face retaliation when they speak out, so they need to be protected if employers are not following through in implementing future rules.</p>	<p>Thank you for your comment.</p> <p>Under WISHA, employers are prohibited from retaliating against a worker for exercising their rights under WISHA to a safe and healthful workplace. Specific to this rulemaking, the adopted rules includes language regarding prohibition from retaliation and that information is included in the worker training requirements.</p> <p>It is important to ensure workers understand their rights to protections and understand what to do if they experience retaliation. L&I inspectors, including those in the Agricultural Compliance Unit, provide information to employees during inspections about their rights to discrimination protections during the course of inspections. Recent changes to WISHA have increased worker protections and added employer sanctions related to safety and health discrimination. Under these changes, workers now have 90 days to file complaints with L&I. If L&I determines that retaliation occurred, we have authority to issue citations and notices and assessments with a monetary penalty to the employer and all appropriate relief for the worker.</p> <p>Additional information about employee protections from discrimination can be found on L&I's website: https://www.lni.wa.gov/workers-rights/workplace-complaints/discrimination-in-the-workplace</p> <p>This comment did not result in a change to the adopted rules language.</p>
<p>We suggest including reference to the other anti-retaliation provisions in the WAC, specifically WAC 296-128-770, in</p>	<p>Thank you for your comment.</p>

<p>this or another section of the rule to clarify that employers may not retaliate against workers for requesting employer compliance with wildfire smoke protections.</p>	<p>WAC 296-128-770 addresses retaliation protections for workers who exercise their rights under Washington’s Minimum Wage Act. Paid sick leave is included under Washington’s Minimum Wage Act. Employees have a right to use any earned paid sick leave for a mental or physical illness, injury, or health condition or if they need a medical diagnosis or preventative medical care. Employers may not discriminate against an employee for exercising their rights to paid sick leave. The rules for paid sick leave are under WAC 296-128-600 through 760.</p> <p>As these rules are specific to workplace safety and health under WISHA, this reference will not be added. The rules for paid sick leave are under WAC 296-128-600 through 760.</p>
<p>In the last five years we have seen increasing rise in wildfire smoke in our state and at times areas of Washington state have very dangerous conditions and even worst air quality in the world due to smoke and weather. Because of climate change, this trend is expected to only increase in the future and why so important to get on it now. Wildfire smoke, especially to people who work long hours out of doors can significantly shorten their lives and increase deaths from flu and other respiratory infections and conditions (asthma and congestive heart conditions and especially COVID). You outline this in your rules. It is important to keep this information throughout this process as there will be pressure to weaken your rules.</p> <p>We are growing in awareness of the hazards of smoke and air quality. And in the last few years there have been times when in parts of our state air quality has been rated “worst in the world”.</p>	<p>Thank you for your comment.</p> <p>This comment did not result in a change in the adopted rules language.</p>

<p>A 2021 Harvard Study points out long term air quality from burning fossil fuels resulted in 1 out of every 5 deaths in the world: Global mortality from outdoor fine particle pollution generated by fossil fuel combustion: Results from GEOS-Chem - ScienceDirect. The cause is airborne fine particulate matter (PM_{2.5}) which is also what wildfire smoke is.</p> <p>Department of Ecology: Wildfire smoke information “Wildfire smoke is a major threat to human health. Smoke from wildfires is the largest source of particle pollution in Washington. Breathing in smoke causes wheezing and coughing, heart and lung disease, and death. The number of acres burned by wildfires is increasing as climate change reduces winter snowpack, and produces hotter and drier summers.”</p>	
<p>I would like to include some comments provided by WORKSAFE California Labor Federation on California Rules”: “Our concerns are heightened by mounting evidence that exposure to elevated levels of PM_{2.5} and other pollutants increases susceptibility to severe COVID-19 illness. PM_{2.5} exposure may increase severity of infection directly by reducing the lungs’ ability to clear pathogens and indirectly by worsening underlying respiratory and cardiovascular disease. A nationwide study conducted by Harvard School of Public Health found that an increase in 1 µg/m³ of PM_{2.5} was associated with a 15% increase in COVID-19 mortality. Air pollution also markedly increased risk of death during the SARS outbreaks in 2003.”</p>	<p>Thank you for your comment.</p> <p>We are aware of research on this issue. Mitigating susceptibility to severe COVID-19 illness would be an additional benefit of this rule.</p> <p>This comment did not result in a change in the adopted rules language.</p>

<p>Researchers have also found that higher PM_{2.5} levels located in China’s Hubei province correlated with higher COVID-19 illness and mortality rates. Researchers at Dali University examined air pollution levels and COVID-19 illness and fatality rates in China, Italy and the US and found higher rates of infection in areas with higher levels of PM_{2.5} and other pollutants.”</p>	
<p>L & I should monitor WA State Ecology’s website for existing conditions and ensure protection measures are afforded by growers and companies to provide education and training for agricultural workers to provide also this sector of the public, health, safety and welfare. We can as a society no longer treat farm workers as essential but expendable.</p>	<p>Thank you for your comment.</p> <p>L&I DOSH does and will continue to do outreach and education on the wildfire smoke hazards, rule requirements, and best practices. Outreach is done across industry sectors, including in the agriculture industry.</p> <p>This comment did not result in a change in the adopted rules language.</p>
<p>It is also essential to listen to voices in farmworker labor organizations in defining, implementing and enforcing safety rules.</p>	<p>L&I worked with stakeholders, including farmworker labor organizations, on the development of the proposed rules. Upon filing of the proposed rules, accordance with Washington’s Administrative Procedures Act, any interested stakeholder could submit written comments and/or testify at a public hearing. In determining the final rule language, L&I considered all written and oral comments. L&I has dedicated staff who perform education and outreach aimed at providing information to workers, including those with diverse backgrounds and whose primary language may not be English. L&I meets directly with workers, participates and shares information at community events, and partners with organizations in the community to help ensure that workers are provided information on how they may exercise their rights and advocate for their protections. L&I plans to work with stakeholders, including farmworker labor organizations, on implementation of the rule.</p>

	<p>This comment did not result in a change in the adopted rules language.</p>
<p>All of us are potentially impacted by wildfires. In the last summers, as wildfire smoke from Canada settled in Olympia, my neighbors and I stopped going outdoors, closed our windows, and did everything we could to protect ourselves from the polluted air. But those who work outside don't have that choice! They are the most affected and at risk from the dual whammy of climate change and wildfire smoke.</p>	<p>Thank you for your comment.</p> <p>We agree. Outdoor workers in many occupational settings are unable to minimize exposure by moving indoors, changing location, lowering exertion, or otherwise altering occupational duties without adverse consequences. Due to high levels of exposure and potentially limited access to protections, outdoor workers are regarded by Washington State agencies and EPA to be a “sensitive group” with respect to particulate air pollution.</p> <p>This comment did not result in a change in the adopted rules language.</p>
<p>It appears that climate change is only going to get more severe in the future, so perhaps declaring a “Climate Emergency” would further support the effort to protect future human health and safety, particularly for this most vulnerable population?</p> <p>For example, there are other farmworker concerns associated with changing climate, e.g., extremes of cold.</p>	<p>Thank you for your comment.</p> <p>In addition to complying with L&I rules, such as these rules for wildfire smoke and the newly amended rules for outdoor heat exposures, employers have a responsibility to provide a safe and healthy workplace free from recognized hazards in the workplace. Depending on the circumstances, extreme ambient cold temperatures may also be a recognized hazard. Employers are required to identify potential hazards in their Accident Prevention Programs, including climate-related hazards.</p> <p>L&I will continue to monitor emerging issues impacting worker health and safety and provide guidance, education, and rulemaking when appropriate.</p> <p>This comment did not result in a change to the adopted rules language.</p>
<p>Requirement for a two-way communication system. This draft rule establishes a critical facet of workplace safety infrastructure: a system for employers to communicate to workers and vice versa. In the event of wildfire, employers</p>	<p>Thank you for your comment.</p> <p>We agree that the requirement for two-way communication is important, in particular for the reasons you mention.</p>

<p>must be able to notify workers when the PM_{2.5} exceeds the thresholds in the rule and what protective measures are available at each threshold. Likewise, workers need a way to notify employers when air quality is worsening, whether protective measures are actually accessible and when workers are experiencing any health effects from wildfire smoke. This system is particularly important at job sites where there is no cell phone reception or there are other barriers to commonplace methods of communication. Timely communication during wildfires is required to protect workers' health.</p>	<p>This comment did not result in changes to the adopted rules language.</p>
<p>Focusing on culturally & linguistically appropriate education of both growers and workers as a critical goal by communicating these rules and their impacts in multiple relevant languages as needed (including indigenous languages in addition to Spanish, English, and other languages if required for significant worker populations).</p>	<p>Thank you for your comment.</p> <p>L&I has dedicated staff who perform education and outreach aimed at providing information to workers, including those with diverse backgrounds and whose primary language may not be English. L&I meets directly with workers, participates and shares information at community events, and partners with organizations in the community to help ensure that workers are provided information on how they may exercise their rights and advocate for their protections.</p> <p>L&I has 230 bilingual employees, representing 9 languages: Amharic, Cantonese, Farsi, Korean, Mandarin, Mixtec, Russian, Spanish, and Vietnamese.</p> <p>We provide tools to access L&I's services, including a telephonic interpretation.</p> <p>This comment did not result in a change to the adopted rules language.</p>
<p>I have understood that there is often lack of enforcement, accountability, and compliance with existing rules. Much of the language in the smoke rule, recommends a protective practice, but then follows by saying it is only</p>	<p>Thank you for your comment.</p> <p>L&I must consider both feasibility and least burdensome alternatives that still achieve the goals and objectives of WISHA when adopting</p>

<p>required “if feasible.” This language allows for discrepancies in implementation and a gray area of when aspects of the rule need to be followed.</p>	<p>rules. Given the variability in outdoor workplaces and outdoor work activities, the rules have flexibility. What is feasible for some employers may not be feasible for others. Guidance will be provided to inspectors as to how to evaluate feasibility in the Wildfire Smoke DOSH Directive. The Directive will be available to employers, employees, and others, once published.</p> <p>This comment did not result in changes to the adopted rules language.</p>
<p>In addition to creating robust worker-centered rules, the agency will need to pursue thorough enforcement to ensure these regulations translate to meaningful health and safety for workers.</p>	<p>Thank you for your comment.</p> <p>L&I inspects both in response to complaints and as part of programmed inspections. Guidance will be provided to DOSH Compliance Staff in the form of a DOSH Directive. The Directive will be available to employers, employees, and others, once published</p> <p>This comment did not result in changes to the adopted rules language.</p>
<p>While the impacts of wildfire smoke may be widespread across our economy, they are not even. The United States Environmental Protection Agency (EPA) considers the following populations socially vulnerable: outdoor workers, communities of color, low-income groups, certain immigrant groups and limited English proficiency groups. Compared to their counterparts, these groups are more likely to live in climate hazard zones, more likely to have existing medical conditions and less likely to have access to adequate healthcare. These realities highlight the need for environmental justice and addressing environmental racism concerns in the workplace.</p> <p>The health impacts from wildfire smoke include respiratory system impacts (bronchitis, reduced lung function, worsening asthma and other lung diseases) to</p>	<p>Thank you for your comment.</p> <p>We recognized that certain workers are particularly at risk for adverse health effects from wildfire smoke exposure due to factors including socio-economic circumstances, language, race, and documentation status. Adopting rules that address these exposures and requirements for information and training to be provided in a manner and language readily understood by the workers may mitigate these inequities. We identified this as a qualitative benefit of the rules in the preliminary and final cost-benefit analysis.</p> <p>This comment did not result in changes to the adopted rules language.</p>

<p>cardiovascular effects such as heart failure, heart attack, stroke to higher risk of premature death.</p> <p>Reduced lung function may result from repeated exposure in the short-term.</p>	
<p>Collaborate with other state agencies to promote comprehensive environmental justice for workers. By working with other agencies, LNI may better protect workers who are impacted by poor air quality, both outdoors and indoors. Workers are impacted by wildfire smoke not only on the job, but also in their homes and throughout their communities –expanded consultation and collaboration with other agencies can support health and environmental justice for Washington workers.</p>	<p>Thank you for your comment.</p> <p>We agree that it is important to collaborate with other state agencies on these important issues. We already work with other state agencies in many ways on these issues and continue to look for ways to increase such collaboration when needed.</p> <p>This comment did not result in a change to the adopted rules language.</p>
<p>We applaud L & I for drafting proposed rules that provide utilities and their workers the ability to determine the appropriate use of exposure controls when public health and safety are at risk and when critical utility services are at risk. We find these proposed rules to appropriately balance worker protection while enabling utility workers to provide critical safety services to the public we all serve.</p>	<p>Thank you for your comment.</p> <p>This comment did not result in a change to the adopted rules language.</p>
<p>Local air agencies, Labor and Industries, or the Department of Ecology should have a larger role in providing notice and guidance when wildfire smoke is expected. We understand and support the goal to protect workers from exposure during the coming wildfire season, but employers need further guidance and resources from regulators to be successful.</p> <p>We understands this will require significant work and likely imposes a burden on limited state agency resources. However, this is precisely the same difficulty that</p>	<p>Thank you for your comment.</p> <p>Wildfire smoke issues are important statewide and collaboration across state agencies like L&I, Washington State Department of Health, and Washington State Department of Ecology, along with local air agencies will continue. L&I will be publishing additional guidance and resources to assist employers with implementation of the rules.</p> <p>This comment did not result in a change to the adopted rules language.</p>

<p>employers face in implementing the emergency rule requirements.</p> <p>A successful policy will require strong support and engagement from all relevant state agencies.</p>	
<p>Follow-up training materials: Because these rules are dense on substantive, technical matters, we suggest that L&I quickly develop a guide to put these rules, once they are adopted, into plain language—including charts or other visual guides—for employers and employees.</p>	<p>Thank you for your comment.</p> <p>As part of this rulemaking, L&I is developing outreach materials in multiple languages and formats that can be used to communicate the requirements of the rule to both employers and employees.</p> <p>This comment did not result in a change to the adopted rules language.</p>
<p>Consider the impact of heat: clarify how the wildfire smoke rule interacts with the heat rule. LNI recently finalized a permanent heat rule that protects outdoor workers in the event of high heat. Multiple hazards – such as heat and wildfire – may occur at the same time, creating complex health and safety conditions for workers that require special safety protocols.</p>	<p>Thank you for your comment.</p> <p>L&I recognized the intersection of both heat and smoke hazards throughout the rulemaking processes on each subject. The adopted rules reflect those considerations.</p> <p>L&I’s standard practice is to evaluate and make necessary changes to safety and health rules on an ongoing basis to ensure that they are providing effective protections for workers across all industries throughout the state. L&I encourages stakeholder feedback about the effectiveness of rules, considerations related to implementation, areas of opportunity for future improvement, etc. Stakeholder perspectives will be valuable in helping L&I determine what updates may be needed during subsequent rulemakings to address the hazards of heat and wildfire smoke exposures for outdoor workers.</p> <p>This comment did not result in a change to the adopted rules language.</p>
<p>Unfortunately, the way the rule is drafted, it is highly probable that under these scenarios many employers will need to send employees home early, resulting in lost wages</p>	<p>Thank you for your comment.</p> <p>Wildfire smoke exposure is a recognized hazard to outdoor workers. WISHA mandates that L&I “[p]rovide for the promulgation of health</p>

and delayed timelines for more homes to be built in Washington state.

and safety standards and the control of conditions in all workplaces concerning...harmful physical agents which shall set a standard which most adequately assures, to the extent feasible, on the basis of the best available evidence, that no employee will suffer material impairment of health or functional capacity.”

In determining the exposure thresholds and requirements for the rules, L&I considered the wildfire smoke regulations from California and Oregon, and the current best evidence on wildfire smoke exposure, in addition to stakeholder input and comments. L&I must also determine that the rules are least burdensome alternative that that still achieves the goals and objectives of WISHA.

As such, the requirement for a full respiratory protection program with medical evaluations and fit-testing is required for exposures at or above 500.4 µg/m³ (AQI 500). This is an extremely hazardous level and but overall, exceedingly rare and all individuals, workers and the general public, are urged to not be outside. By requiring respirator usage with a full respiratory protection program these rules provide the necessary protection for outdoor workers for these extremely hazardous and rare exposures.

Some employers may also choose not perform at lower levels. Prior to and during the rule development process, we heard from many employers and employees about circumstances where they discontinued or rescheduled work. However, the adopted rule does not require that employers cancel work or send workers home.

While it is true that there are costs associated with the implementation of the proposed rule, there are also costs to employers, employees, and society associated with illnesses that occur as a result of worker exposure to wildfire smoke, such as healthcare costs, lost work time, and productivity losses.

	<p>This comment did not result in a change to the adopted rules language.</p>
<p>I am writing to voice opposition to the current rules on wildfire smoke.</p> <p>We already have stringent laws about heat protection. The current rules protecting workers in high heat will also help with any smoke exposure. To keep adding these rules on is hurting the workers and destroying the last small family farms.</p> <p>Now you want to pass another unneeded set of rules that will further damage workers ability to make money.</p> <p>Educate the workers and they can get their own masks when needed. It should be an individual choice not government control.</p>	<p>Thank you for your comment.</p> <p>L&I received a petition to conduct rulemaking to address the hazards of wildfire smoke exposure to outdoor workers.</p> <p>Wildfire smoke exposure is a recognized hazard to outdoor workers. WISHA mandates that L&I “[p]rovide for the promulgation of health and safety standards and the control of conditions in all workplaces concerning...harmful physical agents which shall set a standard which most adequately assures, to the extent feasible, on the basis of the best available evidence, that no employee will suffer material impairment of health or functional capacity.” As such, L&I’s role is to adopt rules that set standards to protect against occupational hazards that are feasible. L&I conducted a cost-benefit analysis, which is available on L&I’s website.</p> <p>This comment did not result in a change to the adopted rules language.</p>
<p>Speaking for my company, we oppose the rule. The threshold of PM_{2.5}, 20.5 µg/m³, is too low to have the requirement for a written accident prevention program and annual training, and then the encouragement for employers to follow other requirements is outlined in the rule.</p>	<p>Thank you for your comment.</p> <p>Wildfire smoke is a recognized hazard for outdoor workers. Under existing rules, all employers are required to have a written accident prevention plan tailored to the needs of their particular workplace or operation and to the types of hazards involved and to train employees on the hazards involved in their work.</p> <p>This rule requires a wildfire smoke response plan to be included in the written accident prevention program and workers to be trained before the employees perform work that exposes the worker to a PM_{2.5} concentration of 20.5 µg/m³ (AQI 69) or more.</p>

	<p>In determining the exposure thresholds and other requirements for the rules, L&I considered the wildfire smoke regulations from California and Oregon, and the current best evidence on wildfire smoke exposure, in addition to stakeholder input and comments. L&I must also determine that the rules are least burdensome alternative. As such, L&I determined that that the best available evidence and the least burdensome alternative was to set the threshold for a written program and training at 20.5 $\mu\text{g}/\text{m}^3$ (AQI 69), which will ensure that workplaces are prepared for more hazardous levels of PM_{2.5}, as smoke conditions can fluctuate quickly. For more information on the determination of the thresholds, see the final cost benefit analysis available on L&I’s website.</p> <p>L&I will provide tools to assist in the creation of the written wildfire smoke exposure response plan.</p> <p>This comment did not result in a change to the adopted rules language.</p>
<p>Many of the existing rules already address smoke. Much like what OSHA has done to firefighting, where we can no longer go into burning buildings unless an unrealistic set of circumstances exists.</p> <p>The most extreme pendulum swings and regulations are driven by special interests who either want more breaks, unnecessary breaks, more people, or cost for monitoring equipment or personnel. The State has entered into that phase where safety is secondary to kowtowing to a group that claims safety, when they only look for self interests.</p> <p>I am asking the State to reexamine the proposed rules; to live up to their stated transparency; to start to actually acknowledge that stakeholder meetings aren't just sessions</p>	<p>Thank you for your comment.</p> <p>There are no occupational health rules in Washington State that currently sufficiently address the hazard of wildfire smoke.</p> <p>Wildfire smoke exposure is a recognized hazard to outdoor workers. WISHA mandates that L&I “[p]rovide for the promulgation of health and safety standards and the control of conditions in all workplaces concerning...harmful physical agents which shall set a standard which most adequately assures, to the extent feasible, on the basis of the best available evidence, that no employee will suffer material impairment of health or functional capacity.” As such, L&I’s role is to adopt rules that set standards to protect against occupational hazards that are feasible. L&I conducted a cost-benefit analysis, which is available on L&I’s website.</p>

<p>to ignore people and to swing the pendulum back to commonsense. This would acknowledge that while rules are necessary, draconian and expensive processes are neither welcome or affordable.</p> <p>Working with the agriculture industry in getting resources for monitors in, sort of, what they want to see in monitoring workers.</p>	<p>This comment did not result in a change to the adopted rules language.</p>
<p>Sometimes the sections earlier in the rules presuppose knowledge of what comes later in the rules. We suggest an alternate flow to these proposed rules. The following is the order we suggest:</p> <p>296-307-098/296-820 Wildfire smoke 296-307-09805/296-820-805 Purpose and scope 296-307-09810/296-820-810 Definitions 296-307-09860/296-307-860 Appendix C: Calculating the Air Quality Index for PM_{2.5} (nonmandatory) 296-307-09815/296-820-815 Identification of harmful exposures 296-307-09845/296-820-845 Measuring PM_{2.5} levels at the worksite 296-307-09855/296-820-855 Appendix B: Selecting direct-reading particulate monitors (mandatory) 296-307-09830/296-820-830 Exposure symptom response 296-307-09835/296-820-835 Exposure controls 296-307-09840/296-820-840 Respiratory protection 296-307-09820/296-820-820 Hazard communication 296-307-09825/296-820-825 Information and training 296-307-09850/296-820-850 Appendix A: Protection from wildfire smoke information and training (mandatory)</p>	<p>Thank you for your comment.</p> <p>L&I organized the rule according to how other DOSH standards are organized, which is to have appendices at the end of the rule.</p> <p>This comment did not result in a change to the adopted rules language.</p>
<p>WAC 296-307-09855/296-820-855 Appendix B: Selecting direct-reading particulate monitors (mandatory) This proposed section needs to be moved into proximity to</p>	<p>Thank you for your comment.</p>

<p>proposed WAC 296-307-09845/296-820-845. It could directly follow WAC 296-307-09845 or be incorporated into WAC 296-307-09845/296-820-845.</p> <p>This change would place all of the mandatory standards regarding the measurement of PM_{2.5} levels together and would rename the title to remove “Appendix B” and “mandatory.” Without this change, the reader might think they have read all mandatory information about this subject only to be surprised that additional mandatory information is included as an appendix. If L&I retains this section as an appendix, we suggest including a reference to this appendix in the text of proposed WAC 296-307-09845/296-820-845 so that the reader will know additional, necessary information on this topic is included at the end of the rules.</p> <p>Subsection (3) –Delete “and” between “exposures” and “so long.” The “and” is not necessary.</p>	<p>This content has been removed from Appendix B and incorporated directly into WAC 296-307-09845/296-820-845:</p> <p>(3) The employer must:</p> <p>(a) Select a sensor with a field R-squared (R) value greater than 0.7 when measuring one-hour average PM_{2.5};</p> <p>(b) If the selected sensor’s field R² is unknown, or is 0.7 or less, the employer may use the sensor alongside other data sources listed in WAC 296-820-815 Identification of harmful exposures, relying on whichever value is higher.</p> <p>This comment resulted in a change to the adopted rules language.</p>
<p>WAC 296-307-09845/296-820-845 Measuring PM_{2.5} levels at the worksite</p> <p>Since proposed WAC 296-307-09815/296-820-815 refers to measuring PM_{2.5} at the worksite, this section of the proposed WACs should follow it directly. Taken together, the reader will know that PM_{2.5} needs to be determined and how to do that.</p>	<p>Thank you for your comment.</p> <p>This section is located towards the end to assure optimal rule flow and to avoid reader confusion. It is anticipated that most employers will use publicly available data to measure the PM_{2.5} at their work location. Therefore this section is anticipated to have a smaller readership.</p> <p>This did not result in a change to the adopted rules language.</p>
<p>Due to the profound health risks associated with wildfire smoke and the increasing intensity and severity of wildfires in our region, we are supportive of this rulemaking. Breathing in wildfire smoke causing an AQI of 150 has the same effect on your health as smoking approximately seven cigarettes a day. As a result of this avoidable</p>	<p>Thank you for your comment.</p> <p>This comment did not result in a change to the adopted rules language.</p>

<p>occupational hazard, workers risk reduced lung function, increased asthma symptoms, heart failure, and even early death. None of these outcomes are remotely acceptable, especially when there are numerous ways for employers to mitigate these risks with common sense safety protocols and the provision of personal protective equipment.</p> <p>We strongly supports L&I’s efforts to protect workers from being exposed to wildfire smoke. We concur with L&I that wildfire smoke exposure is increasing every year and presents a significant and growing health risk to all outdoor workers. We are also in strong support of L&I’s efforts to implement a permanent rule during this wildfire season to avoid necessitating what is likely to be an annual emergency rulemaking process on this subject for the foreseeable future.</p>	
<p>We are in support of using PM_{2.5} concentrations, rather than Air Quality Index (AQI) as the basis for thresholds in the rule. The AQI is a risk communication tool designed to communicate risks to the general public, not the workforce, which has different considerations (i.e., workers do not have control over their environment).</p> <p>The Environmental Protection Agency (EPA) did not develop the AQI for regulatory purposes. The AQI and its associated PM_{2.5} thresholds can also be changed by the EPA, which means the thresholds in the permanent rule could be changed without control by Washington if AQI is used. The EPA has announced they are looking at changing the PM_{2.5} thresholds of the AQI hazard categories.</p>	<p>Thank you for your comment.</p> <p>This comment did not result in a change to the adopted rules language.</p>
<p>We are pleased to see additional worker protections on this issue, particularly given the increased, and increasing, wildfire risk each year. Strong rules are necessary to</p>	<p>Thank you for your comment.</p> <p>This comment did not result in a change to the adopted rules language.</p>

<p>protect workers and the industries they represent. We support the general thrust of the proposed revisions, but we believe that additional changes are necessary to express the legislature’s intent and adequately protect workers.</p>	
<p>I am a Washington State resident & I just wanted to say that I very much support the notion that we should have definitive rules in place for occupational health including agriculture during wildfire season. Preserving the health of workers is just common sense, but sadly without formalized rulemaking I know that countless employers would try to cut corners on safety to save a buck in the short term</p>	<p>Thank you for your comment.</p> <p>This comment did not result in a change to the adopted rules language.</p>
<p>This summer has been one of the hottest and driest summers in recorded history, due in no small part to climate change. With the heat comes dry conditions, which creates the perfect circumstances for wildfires. Wildfires not only destroy forests and wildlife, but also throw toxic soot up in the air for humans to breathe in, causing a number of cardiovascular diseases and conditions. While most persons who live in areas plagued by wildfires stay home to protect themselves from the suffocating smoke, farm workers remain on the frontlines as they are the first responders of our food system.</p> <p>Wildfires are growing bigger, faster and less predictable and they’re also threatening the health and the lives of agricultural workers. For many farmworkers working in fire zones, toxic smoke is a more pervasive threat than the flames themselves. Wildfire smoke can be up to 10 times more toxic than vehicle emissions and can cause long-term damage to those repeatedly exposed to it. Farm workers are exposed to significant risks that threaten their health. Smoke exposure can lead to increased asthma, increased</p>	<p>Thank you for your comment.</p> <p>This comment did not result in a change to the adopted rules language.</p>

<p>allergy symptoms, headaches, shortness of breath, chest pain and even heart issues.</p> <p>The greatest health risk from wildfires comes from inhaling fine particles in smoke made up of burned materials. Fine particulate matter, or PM_{2.5}, causes a range of harmful effects: It irritates the eyes, nose and lungs, aggravates asthma and other respiratory illnesses and increases the risk of death from lung cancer and heart disease. Fires are increasingly burning not just vegetation but everything from pesticides stored in sheds to houses, garages and all they contain. That goes into the air and is breathed by farm workers working out in the fields. We support this rulemaking and other efforts to protect vulnerable workers.</p>	
<p>I'm writing to offer comments in support of a strong, health-protective, human-rights- protective "Smoke Rule."</p> <p>I think we need to consider this rule-making, procedural as it is, to be a dramatic part of the "new normal" or "new abnormal" times that we are in. We do not have the benefit of national, credible, effective heat and smoke rules. Given 50+ years of OSHA, this is a grievous weakness in the system that was created and shaped to protect workers' health rights. Now, especially this summer, when in the US and globally we're reckoning with the climate-chaos around us, we are playing a grim game of shaping protection measures that should already be activated. This means that in the absence of an effective worker-health protective system at the federal level, what happens here in WA is vitally important. WA's "smoke rule" can help set the principles, pace and practices that will – hopefully --</p>	<p>Thank you for your comment.</p> <p>The rule is intended to address the hazard of wildfire smoke exposure to employees, while also taking into account the feasibility of implementation for employers.</p> <p>L&I worked with stakeholders, including farmworker labor organizations, on the development of the proposed rules. Upon filing of the proposed rules, in accordance with Washington's Administrative Procedures Act, any interested stakeholder could submit written comments and/or testify at a public hearing. In determining the final rule language, L&I considered all written and oral comments.</p> <p>Prior to the filing of the proposed rule, between 2020 and 2023, L&I conducted several stakeholder meetings, both virtual and in-person, to gather important feedback on the implications of the adopted rule.</p>

<p>protect workers and public health in the face of climate change.</p> <p>So first off, I join others in expressing appreciation to LNI staff for working diligently on this and evidently being open to critical input from the public, and most importantly from workers and their representatives. I hope that the voices of farmworkers, being especially impacted by climate-change conditions and smoky skies, have been heard. I hope that LNI will continue to assess its hearing process so that it has a strong, valid understanding of its public process and a clear sense of who does, and does not, have a chance to offer comment.</p> <p>I hope that in the course of finalizing the rule that LNI will strengthen these action-points and recommended/required actions even more. At the very least, I urge LNI to stay the course... to not succumb to pressures to make the rule – and its PM_{2.5}/AQI advisory - more lax and less health protective.</p>	<p>This included eight public hearings across the state, including two virtual for stakeholders who could not attend in person.</p> <p>This comment did not result in a change to the adopted rules language.</p>
<p>As we celebrate the richness of our state’s agricultural economy, and eat the delicious fruits and vegetables that our state produces, we must protect the workers who do the planting, cultivating and harvesting. As we contemplate the state’s housing shortage, we must protect the construction workers whose skills are necessary to solving our housing problems. Their health and safety should be our major concern and priority.</p>	<p>Thank you for your comment.</p> <p>This comment did not result in a change in the adopted rules language.</p>
<p>This summer, we have seen massive deteriorations in air quality throughout much of the U.S., primarily because of massive Canadian wildfires. The Center for Climate and Energy Solutions warns that climate change and wildfires are connected phenomena that increasingly threaten our</p>	<p>Thank you for your comment.</p> <p>This comment did not result in a change in the adopted rules language.</p>

<p>planet. Numerous agencies, including the Environmental Protection Agency, National Oceanic and Atmospheric Association, and the United Nations Environment Program all warn that climate change is producing hotter, dryer conditions that lead to wildfires.</p> <p>In other challenges to workers’ rights and health, our state has been able to look to the federal government’s Occupational and Health Administration (OSHA) for direction. But where outside workers are involved, our state has the opportunity—and responsibility—to take the lead in creating rules that will protect workers’ health and even their lives. Other states, like California, are looking to us to show vision and leadership that acknowledge the changing landscape of risk to our economy, and to the hardworking men and women who are its backbone.</p> <p>There will always be reasons to mitigate rules or slow down their implementation. I’m sure there will be pressure to do so. When workers’ status is insecure, as is the case with H2A workers, or when they don’t have direct representation through a union, as is the case with many agricultural workers, then our state has a special responsibility to advocate for their rights and needs.</p>	
<p>In addition, we support other recommendations on the same proposed rules. These wildfire and air quality standards are especially important to workers who spend the majority of their day outdoors or in vehicles or buildings with little air filtration. We support recommendations which aim to strengthen the proposed rules and mitigate disproportionate risks to workers’ health and safety.</p>	<p>Thank you for your comment.</p> <p>This comment did not result in a change in the adopted rules language.</p>

Wildfire smoke has become an increasing threat to the health of farmworkers in the state of Washington, as the acreage affected by wildfires increases each fire season. The high concentrations of fine particles (PM_{2.5}) resulting from these fires are associated with health effects such as heart attacks, irregular heartbeat, aggravated asthma, decreased lung function, and increased respiratory symptoms, particularly among sensitive groups. Despite these risks, farmworkers and employers often lack the information necessary to take protective actions.

Therefore, we welcome the Department of Labor & Industries' proposed adoption of a permanent rule to protect workers from the health risks of wildfire smoke. However, we also offer some recommendations to strengthen some aspects of the rule. While our comments focus on sections of WAC 296-307, the same recommendations apply to the corresponding sections of WAC 296-820.

Farmworkers face increasing health risks from wildfire smoke exposure. Washington has taken important steps as one of only three states in the country that have adopted rules to protect workers from wildfire smoke. We commend the Department of Labor & Industries for ensuring that the new proposed rule accounts for the diverse languages and levels of literacy found among outdoor workers in its training requirements, and establishes enforceable action thresholds and anti-retaliation provisions. However, we do urge the Agency to incorporate the recommendations made in these comments to further strengthen the rule and reduce the serious risks farmworkers continue to experience.

Thank you for your comment.

This comment did not result in a change to the adopted rules language.

<p>Thank you for the opportunity to submit a comment on CR-102 Proposed Rulemaking related to Wildfire Smoke. We support the proposed Washington Administrative Code (WAC) changes implemented through new WAC chapter 296-820 and WAC chapter 296-307, Part G-1, and the protections these changes offer to employees who might otherwise be inadvertently exposed to wildfire smoke during wildfire smoke events while conducting activities related to their occupation.</p> <p>We view this rulemaking as a critically important public health measure in a changing climate where wildfire smoke events are increasingly frequent and environmental hazards disproportionately burden King County’s communities of color.</p>	<p>Thank you for your comment.</p> <p>This comment did not result in a change to the adopted rules language.</p>
<p>Today I am writing as a concerned citizen, parent, healthcare provider and advocate for environmental health and public health. Below are a few key points that I would like to address: I support the implementation of a comprehensive Wildfire Smoke Rule that aims to protect public health, reduce exposure to hazardous air quality, and mitigate the impacts of wildfire smoke.</p> <p>I appreciate the complexity designing a rule across multiple industries, and workplace settings as everyone is having adapt multiple facets of their business to the impacts of wildfires. I have read many of the previous stakeholder comments about difficulty accessing real-time AQI readings, and reaching workers who may work in remote areas where the AQI does not match available readings. I recognize the need for flexibility in some industries allowing for supervisors to use best judgement,</p>	<p>Thank you for your comment.</p> <p>This comment did not result in a change to the adopted rules language.</p>

but I do also see the flexibility in the rule being potentially problematic in the agricultural setting.

I appreciate the aspects covered in the proposed rule and the efforts that went into drafting and revising the rule over the past few years. I realize there is not a current national standard from OSHA, and that other states with a Smoke Rule have varying thresholds.

For employers, supervisors and managers to successfully implement the rule there needs to be a robust education and training program, and compliance officers available to ensure worker claims are made without repercussions, and that there is adequate follow up.

To prepare responsible staff for knowing the hazards of smoke exposure, monitoring air quality, communicating hazards, recognizing and treating smoke related symptoms, recognizing and addressing medically vulnerable populations, and requiring workers to stop working when the air quality is too hazardous.

To have anyone working outdoors in AQI above 151 will certainly have lasting health impacts, and although the research on occupational exposure is still underway, I believe that we have sufficient knowledge from the EPA and CDC to act now to prevent these exposures. For workers to be outdoors at AQI of 500 will have lasting public health impacts on the population exposed.

I have some concerns that the rule as it exists will not provide sufficient protection for its most vulnerable workers. As we know, the smoke emitted during wildfires

<p>in our region contains harmful pollutants, such as particulate matter (PM_{2.5}), which can have severe respiratory and cardiovascular effects on vulnerable populations, including children, the elderly, and individuals with pre-existing health conditions. Agricultural workers have an occupational vulnerability due to high levels of exertion working outdoors in extreme weather. There are often gaps in education and communication, and lack of adequate supplies such as fitted masks, and options for re-locating work. My concerns with the rule as proposed are similar to my concern with other labor standards and protections in the industry.</p>	
<p>As a concerned Washington State resident, I would like to add my voice to that of my colleagues and thank the Dept. of Labor and Industries for putting forward some measure of protection for our WA workers who labor outdoors. They are the frontline of WA workers affected by worsening air quality. And like other frontline workers they need and deserve proper and effective protections to do their jobs safely.</p> <p>I am proud of WA State LNI for taking action with your proposed final rule and I urge you to follow up with effective enforcement strategies to give this final rule substance and meaning.</p>	<p>Thank you for your comment.</p> <p>This comment did not result in changes to the adopted rules language.</p>
<p>Thank you for the opportunity to provide comment pertaining to the scope of issues raised by the permanent rule-making on wildfire smoke and occupational health standards.</p> <p>Because of the rapid changes in our environment due to the climate crisis, wildfires increasingly expose workers to</p>	<p>Thank you for your comment.</p> <p>This comment did not result in changes to the adopted rules language.</p>

<p>poor air quality on the job. These workers need clear and consistent expectations about how their health and safety will be protected. Exposure to wildfire smoke impacts workers in a wide range of industries and settings: agriculture, construction, manufacturing, transportation, grocery, laundromats, law enforcement, waste management, scrap yards, department of corrections, communications infrastructure, public utilities, education and many other settings where workers may struggle to establish healthy air quality – both indoor and outdoor. Washington must protect workers from increasing climate hazards.</p>	
<p>As producers working outside to grow, harvest and pack fresh fruit, we believe wildfire smoke exposure is a serious safety concern. Our members are committed to keeping employees safe while meeting critical and time-sensitive operational needs. Lastly, we appreciate the opportunities for stakeholder feedback throughout this process. Thank you for the opportunity to express our concerns.</p>	<p>Thank you for your comment.</p> <p>This comment did not result in a change to the adopted rules language.</p>
<p>Without a federal heat and smoke rules system in place, Washington is becoming a leader and guide by providing a model for other states and federal agencies (such as OSHA and COSH) to follow and improve upon.</p> <p>Seeking and valuing the voices of the most vulnerable outside workers (including undocumented, non-union, and H2A workers) on all rules throughout the process of finalization, implementation, and enforcement. That is, listening and learning from the experiences and perspectives of farmworkers and construction workers in the field and organizations and health providers who advocate for them—as well as to those of employers and growers whose voices have historically</p>	<p>Thank you for your comment.</p> <p>L&I agrees that listening to worker voices is key to establishing effective protections. L&I has dedicated staff who perform education and outreach aimed at providing information to workers, including those with diverse backgrounds and whose primary language may not be English. L&I meets directly with workers, participates and shares information at community events, and partners with organizations in the community to help ensure that workers are provided information on how they may exercise their rights and advocate for their protections.</p> <p>This comment did not result in a change to the adopted rules language.</p>

<p>dominated considerations of worker health & safety protections.</p>	
<p>There are lots of health risks due to heat and smoke exposure. Workers are at risk of both immediate and long-term health impacts. The most compelling reason for implementing these changes is the health risks of wildfire smoke upon workers.</p> <p>There is also the economic impact of NOT protecting these agricultural workers. It is in the best interest of Washington's agri-business that our precious, much sought after, fruit and produce get harvested, packaged and transported "just in time." This represents a huge investment on the part of growers, some of them generational farmers. There is no doubt as to the economic drivers which NEED the agriculture workers to remain a robust work force. These workers, too, are frequently generational field and orchard workers.</p> <p>We cannot be satisfied with the peripheral praise that comes from Washington being better than 99% of most states in putting forth heat and smoke rules. Their health and functioning is totally dependent upon growers responding to the new safety rules.</p>	<p>Thank you for your comment.</p> <p>This comment did not result in a change to the adopted rules language.</p>
<p>I urge that once the rules are finalized, that follow through and enforcement help assure the serious intent and compliance to reducing these risks.</p>	<p>Thank you for your comment.</p> <p>DOSH will implement compliance policy of the adopted rule to ensure employers comply with the regulations. Additionally, DOSH compliance responds to all complaints or referrals of alleged compliance issues.</p> <p>This comment did not result in a change to the adopted rules language.</p>

<p>Please trust the voices of the migrant community health providers and farmworker labor organizations in not only identifying what changes are critical to worker health but also in getting communication out in ways which are trusted and believed.</p>	<p>Thank you for your comment.</p> <p>We agree that trust is critical. L&I has dedicated staff who perform education and outreach aimed at providing information to workers, including those with diverse backgrounds and whose primary language may not be English. L&I meets directly with workers, participates and shares information at community events, and partners with organizations in the community to help ensure that workers are provided information on how they may exercise their rights and advocate for their protections.</p> <p>This comment did not result in a change to the adopted rules language.</p>
<p>My company operates on the Columbia, Snake and Willamette rivers and I wanted to ensure that there is information in the Washington rules that mentions the Oregon rules. A cross reference paragraph or a chart that shows both sets of standards would be very helpful for my company to address the requirements of both States. I believe they are similar, but with a few minor differences.</p>	<p>Thank you for your comment.</p> <p>L&I will take this under advisement as we continue to develop outreach tools for rule implementation.</p> <p>This comment did not result in a change in the adopted rules language.</p>
<p>We have concerns with the style in which these proposed rules are written. For years, L&I has sought to ensure that rules be written or rewritten in ways that employers and workers can understand.</p> <p>L&I has reformatted safety rules to allow them to be easily accessed via mobile phones and searched on a new website. This proposal does not meet those readability standards.</p> <p>A person should not have to be a safety expert or industrial hygienist to understand these rules. As such, the main thrust of our comments pertains to the order, flow, style, grammar, structure, and communication of</p>	<p>Thank you for your comment.</p> <p>Formatting changes have been made throughout the rule to address concerns on user readability.</p> <p>For example: L&I has removed the titles from WAC sections that are internal to chapter 296-820 WAC and chapter 296-307 WAC. The titles were retained for external references, i.e., references outside of the two chapters mentioned above.</p> <p>This comment did result in a change to the adopted rules language.</p>

the proposed rules to make their substance more understandable.

Many times in these proposed rules, references to a specific WAC are followed by the title of that WAC within the text of a paragraph (e.g., "...as identified in WAC 296-307-09815 Identification of harmful exposures..."). Sometimes that title is not set off in commas, and sometimes a comma follows that title. For example, WAC 296-307-09840(7) states, "The employer must use WAC 296-307-09825 Information and training in lieu of the advisory information in Table 2 of WAC 296-307-59805 Respirators, for training regarding voluntary use of respirators for wildfire smoke." There are no commas before and/or after "Information and training," but there is one following "Respirators."

We suggest that L&I be consistent throughout this proposal and ensure that grammatical constructions used in this proposal be consistent with other DOSH rules.

The most common construction we have seen in other DOSH rules is to not include the title after the WAC number. We suggest that you eliminate these titles. As such, the example above would read as follows: "The employer must use WAC 296-307-09825 in lieu of the advisory information in Table 2 of WAC 296-307-59805 for training regarding voluntary use of respirators for wildfire smoke." Deleting this extra information consistently throughout these rules would help readability without compromising the substance or understanding of the information.

<p>I hope that LNI has a clear plan to review how the rule is functioning.</p> <p>What is working, what is not? Are the guidelines and recommended actions about PPE in keeping with what's workable in the fields, and what can be learned from industrial hygienists about the evolving knowledge on PPE? How is the WA "smoke rule" interpreted, re-applied, borrowed and/or criticized by other jurisdictions as they develop such rules at the federal and state levels?</p> <p>How does WA's rule and measures connect with efforts in Canada – especially given their current summer-of-smoke and their different measure (the AQHI instead of the AQI)? How will LNI learn from workers about their experience of smoke-and-heat and the functioning of the rule in different settings? What can be learned from regional clinics, especially those serving farmworkers? How will this new rule impact workers in terms of changes in the need for clinical care and patients' experience and outcomes?</p> <p>Given the weight and significance of WA's efforts, it seems urgent that what is done here be carefully evaluated and treated as a vital "learning tool" as we head into the future. I hope that WA LNI is in steady consultation with labor departments in CA and OR, as well as OSH staff at the AFL-CIO and WSLC, as well as key advocates at COSH (the national Council on Occupational Safety and Health.)</p> <p>Remaining open to the rules as a work in process, not a product set in stone; so that assessment is ongoing and the</p>	<p>Thank you for your comment.</p> <p>L&I's standard practice is to evaluate and make necessary changes to safety and health rules on an ongoing basis to ensure that they are providing effective protections for workers across all industries throughout the state. We will review applicable data including, but not limited to, wildfire smoke exposure-related illness claims, inspections, other national and state regulations, peer-reviewed publications, and nationally-recognized standards.</p> <p>L&I encourages stakeholder feedback about the effectiveness of the rule, considerations related to implementation, areas of opportunity for future improvement, etc. Stakeholder perspectives are valuable in helping L&I determine what updates may be needed during subsequent rulemakings.</p> <p>This comment did not result in a change to the adopted rules language.</p>
---	---

<p>experiences of other states (and Canada) and those local and national agencies that advocate for the health and safety of workers are heard and taken into account. This is crucial to sustain and continuously improve and strengthen the rules.</p>	
<p>I want to encourage standardization with Oregon’s wildfire rule since there are many employers that have oversight of workers in the Portland and southern Washington metro. Oregon’s rule requires employers to implement engineering and administrative controls and make respirators available for voluntary use at a PM_{2.5} of 35.5 µg/m³ (AQI 101). Oregon’s rule also requires N95 use at 200.9 µg/m³ (AQI 251) without fit-testing or medical evaluations, and when the PM_{2.5} is 500.4 µg/m³ (AQI 501) or greater, a full respiratory protection program is required, including fit testing and medical evaluations.</p>	<p>Thank you for your comment.</p> <p>In developing the adopted rules, L&I considered the wildfire smoke regulations from California and Oregon, and the current best evidence on wildfire smoke exposure. These rules are consistent with the elements of Oregon’s rule identified in this comment except for Oregon’s required use of N95s at PM_{2.5} concentrations of 200.9 µg/m³ (AQI 251) without fit-testing or medical evaluations. These rules require employers directly distribute N95 to all employees for voluntary use above a concentration of PM_{2.5} of 250.5 µg/m³ (AQI 301). L&I determined that these requirements were the less burdensome and more feasible alternatives.</p> <p>For more information regarding the threshold for respiratory protection and the least burdensome analysis, including the harm-avoidance rationale behind L&I’s decision not to require workers wear un-fit-tested respirators; please see the final cost-benefit analysis, which is available on L&I’s website.</p> <p>This comment did not result in a change to the adopted rules language.</p>
<p>Please we are regulated enough. Once you solve the high gas taxes the homeless crisis the drug epidemic and finally the lawlessness that's going on in the state. That I think we could sit down and make amendments to the laws that are already on the books.</p>	<p>Thank you for your comment.</p> <p>Wildfire smoke exposure is a recognized hazard to outdoor workers. WISHA mandates that L&I “[p]rovide for the promulgation of health and safety standards and the control of conditions in all workplaces concerning...harmful physical agents which shall set a standard which most adequately assures, to the extent feasible, on the basis of the best available evidence, that no employee will suffer material impairment</p>

	<p>of health or functional capacity.” As such, L&I’s role is to adopt rules that set standards to protect against occupational hazards that are feasible. L&I conducted a cost-benefit analysis, which is available on L&I’s website.</p> <p>This comment did not result in a change to the adopted rules language.</p>
<p>We are all grownups here and know how to protect ourselves and when conditions require additional personal protections. We do not need the State mandating when each of us needs to take additional precautions.</p>	<p>Thank you for your comment.</p> <p>Wildfire smoke exposure is a recognized hazard to outdoor workers. WISHA mandates that L&I “[p]rovide for the promulgation of health and safety standards and the control of conditions in all workplaces concerning...harmful physical agents which shall set a standard which most adequately assures, to the extent feasible, on the basis of the best available evidence, that no employee will suffer material impairment of health or functional capacity.” As such, L&I’s role is to adopt rules that set standards to protect against occupational hazards that are feasible. L&I conducted a cost-benefit analysis, which is available on L&I’s website.</p> <p>This comment did not result in a change to the adopted rules language.</p>
<p>Tree work is a high cardio job, we need to breathe freely please do not add to the stress of an already stressful job by adding respirator requirements that would be more than is reasonable and fair.</p>	<p>Thank you for your comment.</p> <p>Under the adopted rule, respirators are not required to be worn until the PM_{2.5} concentration reaches 500.4 µg/m³, which is beyond the level that EPA considers “hazardous” to everyone. The remainder of the rules respiratory protection standards are voluntary use by the employee.</p> <p>This comment did not result in a change to the adopted rules language.</p>
<p>I employ adults who are more than capable of determining when to where a mask for their own health concerns. Each person should be allowed to determine what is appropriate</p>	<p>Thank you for your comment.</p>

<p>for their health and safety without mandates and interference from an overzealous regulatory agency trying to mandate one size fits all rules.</p>	<p>Wildfire smoke exposure is a recognized hazard to outdoor workers. WISHA mandates that L&I “[p]rovide for the promulgation of health and safety standards and the control of conditions in all workplaces concerning...harmful physical agents which shall set a standard which most adequately assures, to the extent feasible, on the basis of the best available evidence, that no employee will suffer material impairment of health or functional capacity.” As such, L&I’s role is to adopt rules that set standards to protect against occupational hazards that are feasible. L&I conducted a cost-benefit analysis, which is available on L&I’s website.</p> <p>Under the adopted wildfire smoke rule, employees will have the option to wear respiratory protection when the PM_{2.5} concentration is between 35.5 µg/m³ (101 AQI) and 500.3 µg/m³ (499 AQI). Once the PM_{2.5} reaches 500.4 µg/m³ (500 AQI), a level beyond what EPA considers hazardous, respirators are required to be worn and a full respiratory protection program implemented.</p> <p>This comment did not result in a change to the adopted rules language.</p>
<p>Once again you guys are overreacting and taking things to the extremes where is the documentation showing a spike or any significant change in these types of claims in the last five years? Without that type of FACTUAL evidence we should not be inventing new rules ever.</p>	<p>Thank you for your comment.</p> <p>PM_{2.5}, including wildfire smoke, is well known to present a variety of serious health effects. Data indicates that all individuals may experience health effects from PM_{2.5} at levels below what the current AQI breakpoints currently indicate; indeed, there is no concentration of PM_{2.5} that is known to be safe. Additional data are presented in detail in the cost-benefit analysis for wildfire smoke, which is available on L&I’s website.</p> <p>This comment did not result in a change to the adopted rules language.</p>
<p>I am a nurse and it is hard for me to understand why we would pass a law on everyone that only impacts a few. Why does our government insist on catering to the 1%.</p>	<p>Thank you for your comment.</p>

<p>We don't make everyone stay home because people are fighting cancer and have low white counts. No you provide protection to that 1% and leave the rest of us alone.</p>	<p>Wildfire smoke exposure is a recognized hazard to outdoor workers. WISHA mandates that L&I “[p]rovide for the promulgation of health and safety standards and the control of conditions in all workplaces concerning...harmful physical agents which shall set a standard which most adequately assures, to the extent feasible, on the basis of the best available evidence, that no employee will suffer material impairment of health or functional capacity.” As such, L&I’s role is to adopt rules that set standards to protect against occupational hazards that are feasible. L&I conducted a cost-benefit analysis, which is available on L&I’s website.</p> <p>Data indicates that all individuals may experience health effects from PM_{2.5} at levels below what the current AQI breakpoints currently indicate; indeed, there is no concentration of PM_{2.5} that is known to be safe.</p> <p>Additionally, outdoor workers are uniquely exposed to higher levels of particulate air pollution, including wildfire smoke, compared to the general public and are regarded by Washington State and EPA to be a “sensitive group” with respect to particulate air pollution.</p> <p>This comment did not result in a change to the adopted rules language.</p>
<p>I was an employer in California, for the past 40 years every year is fire season. Our employees worked in heat and smoke for those 40 years. All companies are aware of this and ensure employee are safe and still produce homes for the homeless. The vagueness of this rule will cripple how Washington does business.</p>	<p>Wildfire smoke exposure is a recognized hazard to outdoor workers. WISHA mandates that L&I “[p]rovide for the promulgation of health and safety standards and the control of conditions in all workplaces concerning...harmful physical agents which shall set a standard which most adequately assures, to the extent feasible, on the basis of the best available evidence, that no employee will suffer material impairment of health or functional capacity.” As such, L&I’s role is to adopt rules that set standards to protect against occupational hazards that are feasible. L&I conducted a cost-benefit analysis, which is available on L&I’s website.</p>

	<p>This comment did not result in a change to the adopted rules language.</p>
<p>Most people do not want to wear mask and I think only a few will need to worry about smoke just like with COVID it only effected a small number of people why punish everyone.</p>	<p>Thank you for the comment.</p> <p>Wildfire smoke exposure is a recognized hazard to outdoor workers. WISHA mandates that L&I “[p]rovide for the promulgation of health and safety standards and the control of conditions in all workplaces concerning...harmful physical agents which shall set a standard which most adequately assures, to the extent feasible, on the basis of the best available evidence, that no employee will suffer material impairment of health or functional capacity.” As such, L&I’s role is to adopt rules that set standards to protect against occupational hazards that are feasible. L&I conducted a cost-benefit analysis, which is available on L&I’s website.</p> <p>Under the adopted rule, employees will have the option to wear respiratory protection when the PM_{2.5} concentration is between 35.5 µg/m³ (101 AQI) and 500.3 µg/m³ (499 AQI). Only once the PM_{2.5} reaches 500.4 µg/m³ (500 AQI), a level beyond what EPA considers hazardous, are respirators required to be worn and a full respiratory protection program implemented.</p> <p>This comment did not result in a change to the adopted rules language.</p>
<p>Once again the onerous task of implementing, regulating, monitoring and paying for these new rules will be placed upon the employer. Who is going to make sure everyone is safe and healthy after work hours? We do not want anyone to become ill, and / or get injured, however these rules go beyond common sense. Just as we have modified our company safety rules (we will now stop work when temperatures reach 100 degrees) for heat exposure, we will stop work when L & I rules require masking due to wildfire smoke. This is the only way we can, as an</p>	<p>Thank you for your comment.</p> <p>Wildfire smoke exposure is a recognized hazard to outdoor workers. WISHA mandates that L&I “[p]rovide for the promulgation of health and safety standards and the control of conditions in all workplaces concerning...harmful physical agents which shall set a standard which most adequately assures, to the extent feasible, on the basis of the best available evidence, that no employee will suffer material impairment of health or functional capacity.” As such, L&I’s role is to adopt rules that set standards to protect against occupational hazards that are</p>

<p>employer, allow our employees to make their own personal decisions regarding their individual health and welfare.</p>	<p>feasible. L&I conducted a cost-benefit analysis, which is available on L&I’s website.</p> <p>The wildfire smoke rules do not require employers to cease operations or send employees home. Employers have a responsibility to provide a safe and healthy workplace free from recognized hazards in the workplace, including wildfire smoke. These responsibilities do not extend to activities that are outside work hours or not at work locations.</p> <p>This comment did not result in a change to the adopted rules language.</p>
<p>While we really appreciate safety, this seems a bit on the extreme side and should be rethought.</p>	<p>Thank you for your comment.</p> <p>Wildfire smoke exposure is a recognized hazard to outdoor workers. WISHA mandates that L&I “[p]rovide for the promulgation of health and safety standards and the control of conditions in all workplaces concerning...harmful physical agents which shall set a standard which most adequately assures, to the extent feasible, on the basis of the best available evidence, that no employee will suffer material impairment of health or functional capacity.” As such, L&I’s role is to adopt rules that set standards to protect against occupational hazards that are feasible. L&I conducted a cost-benefit analysis, which is available on L&I’s website.</p> <p>This comment did not result in a change in the adopted rules language.</p>
<p>I believe that the average should be based on the average person, not the most sensitive.</p>	<p>Thank you for your comment.</p> <p>In determining the exposure thresholds and other requirements for the rules, L&I considered the wildfire smoke regulations from California and Oregon, and the current best evidence on wildfire smoke exposure, in addition to stakeholder input and comments. L&I must also determine that the rules are least burdensome alternative that still achieves the goals and objectives of WISHA.</p>

	<p>Outdoor workers are uniquely exposed to higher levels of particulate air pollution, including wildfire smoke, compared to the general public and are regarded by Washington State and EPA to be a “sensitive group” with respect to particulate air pollution.</p> <p>L&I has provided detailed information regarding its considerations of threshold selection in the cost-benefit analysis, which is available on L&I’s website.</p> <p>This comment did not result in a change in the adopted rules language.</p>
<p>We already have a shortage of workers in the construction trades...you're making it harder for workers to be motivated to work in construction and placing an undue burden on home builders who are keeping the economy going. This is an egregious naivety of you not understanding how our economy works.</p>	<p>Thank you for your comment.</p> <p>Wildfire smoke exposure is a recognized hazard to outdoor workers. WISHA mandates that L&I “[p]rovide for the promulgation of health and safety standards and the control of conditions in all workplaces concerning...harmful physical agents which shall set a standard which most adequately assures, to the extent feasible, on the basis of the best available evidence, that no employee will suffer material impairment of health or functional capacity.” As such, L&I’s role is to adopt rules that set standards to protect against occupational hazards that are feasible. L&I conducted a cost-benefit analysis, which is available on L&I’s website.</p> <p>This comment did not result in a change to the adopted rules language.</p>
<p>We had local wildfire smoke here several years ago. We ran some extra fans with filters on the back to help mitigate any smoke in the building. NO ONE got sick from it and no one missed work. We don't need more rules! We respectfully request that you modify these rules! Hurting Employers hurts Employees!</p>	<p>Thank you for your comment.</p> <p>Wildfire smoke exposure is a recognized hazard to outdoor workers. WISHA mandates that L&I “[p]rovide for the promulgation of health and safety standards and the control of conditions in all workplaces concerning...harmful physical agents which shall set a standard which most adequately assures, to the extent feasible, on the basis of the best available evidence, that no employee will suffer material impairment</p>

	<p>of health or functional capacity.” As such, L&I’s role is to adopt rules that set standards to protect against occupational hazards that are feasible. L&I conducted a cost-benefit analysis, which is available on the agency’s website.</p> <p>The wildfire smoke rules do not require employers to cease operations or send employees home. Employers have a responsibility to provide a safe and healthy workplace free from recognized hazards in the workplace, including wildfire smoke.</p> <p>This comment did not result in a change to the adopted rules language.</p>
<p>This new rule is insane! Most jobsites on Whidbey Island we don't even have decent cell phone service, so how are we going to know what the Air Quality Index is?</p>	<p>Thank you for your comment.</p> <p>As the rule indicates PM_{2.5} concentration levels need to be checked regularly. The rule does not define how often the concentration levels must be looked at to provide flexibility to employers. On a clear day when wildfire smoke does not appear to be present looking at the available resources identified in the rule could occur maybe once or twice that day, whereas a day with obvious smoke present in the air an employer would want to check more regularly.</p> <p>The adopted rule provides various resources for checking PM_{2.5} levels. Employers have the option to use publicly available regulatory monitors, or have the option to purchase their own monitors to determine the current PM_{2.5} at their worksites. Employers with workers in remote or distributed worksites have multiple options to assist with implementation, such as:</p> <ul style="list-style-type: none"> • Using publicly-available PM_{2.5} forecasts to predict the exposures of workers at distributed worksites. • Signing up for air quality notifications and alerts. Various web and phone applications such as EPA’s

	<p>https://www.enviroflash.info/ may be used to send alerts based on user preference.</p> <ul style="list-style-type: none"> • Providing designated workers with the knowledge, training, and responsibility to monitor the PM_{2.5} with direct reading instruments. <p>This comment did not result in a change to the adopted rules language.</p>
<p>These new rules will hurt workers. We are all for making the work environment safe. If rules are beyond too restrictive and it takes away from the opportunity for employees to make a living by working adequate hours, they are not able to provide for their families. Let's look at solutions within that meets the average situation, not the extreme.</p>	<p>Thank you for your comment.</p> <p>Wildfire smoke exposure is a recognized hazard to outdoor workers. WISHA mandates that L&I “[p]rovide for the promulgation of health and safety standards and the control of conditions in all workplaces concerning...harmful physical agents which shall set a standard which most adequately assures, to the extent feasible, on the basis of the best available evidence, that no employee will suffer material impairment of health or functional capacity.” As such, L&I’s role is to adopt rules that set standards to protect against occupational hazards that are feasible. L&I conducted a cost-benefit analysis, which is available on L&I’s website.</p> <p>The wildfire smoke rules do not require employers to cease operations or send employees home, but rather requires employers to implement feasible controls to protect workers. Employers have a responsibility to provide a safe and healthy workplace free from recognized hazards in the workplace, including wildfire smoke.</p> <p>This comment did not result in a change to the adopted rules language.</p>
<p>Do not use an Air Quality Index (AQI) of 101 as the index number of employers providing respiratory mask to employees. According to L&I information that is the number at which the most sensitive person would wear</p>	<p>Thank you for your comment.</p> <p>The adopted rule thresholds are based upon ambient PM_{2.5}, which is the primary pollutant of public health concern in wildfire smoke.</p>

<p>one. Base employer providing mask at a number were a typical or average person would use one.</p>	<p>Conversions to the AQI are provided in the rule to make it easier for employers to comply.</p> <p>There are several reasons why L&I based the wildfire smoke rule on PM_{2.5} rather than AQI:</p> <ul style="list-style-type: none"> • Data indicates that all individuals may experience health effects from PM_{2.5} at levels below what the current AQI breakpoints currently indicate; indeed, there is no concentration of PM_{2.5} that is known to be safe, • The AQI is not designed for use in the occupational environment, • The AQI is not designed as a regulatory tool, • AQI value and its associated health messages may specifically underestimate or inaccurately represent actual health risks to specific individuals and population subgroups, including outdoor workers (Cromar 2020), • Basing the rule on mass concentration of PM_{2.5} instead of the AQI avoids the confusion arising from the composite nature of the AQI. <p>Additionally, outdoor workers are uniquely exposed to higher levels of particulate air pollution, including wildfire smoke, compared to the general public and are regarded by Washington State and EPA to be a “sensitive group” with respect to particulate air pollution.</p> <p>L&I has provided detailed information regarding its considerations of threshold selection in the cost-benefit analysis, which is available on L&I’s website.</p> <p>This comment did not result in a change in the adopted rules language.</p>
<p>As a former wildland firefighter, I am surprised that the state is considering taking, what I would consider extreme measures in order to support such a small number of</p>	<p>Thank you for your comment.</p>

<p>employees that may be adversely impacted by this legislation. I would be more concerned with the potential to overheat based on the use of this PPE, than the benefit provided by the use of it.</p>	<p>Data indicates that all individuals may experience health effects from PM_{2.5} at levels below what the current AQI breakpoints currently indicate; indeed, there is no concentration of PM_{2.5} that is known to be safe.</p> <p>Under the adopted rule, employees will have the option to wear respiratory protection when the PM_{2.5} concentration is between 35.5 µg/m³ (101 AQI) and 500.3 µg/m³ (499 AQI). Only once the PM_{2.5} reaches 500.4 µg/m³ (500 AQI), a level that the EPA considers hazardous, are respirators required to be worn and a full respiratory protection program implemented.</p> <p>This comment did not result in a change to the adopted rules language.</p>
<p>I am a builder here on Bainbridge Island since 1995. I do not agree with L&I sorry. I am tired of new rules that only the inexperienced add comment. Masks are vital to good health in these conditions. Health costs are through the roof and significantly impact the average construction worker, who in most cases need guidance on everything for safety, not just masks. Get with it L&I and support good health...stop whining!</p>	<p>Thank you for your comment.</p> <p>The adopted rule ensure that workers have access to respirators when they are needed for protection.</p> <p>This comment did not result in a change to the adopted rules language.</p>
<p>The proposed changes are another example of how government causes inflation. The criteria is not reasonable and certainly not well thought out. We need affordable housing in this state. In trying to recruit from outside of WA we have found it difficult to get candidates to say yes because of our cost of housing. This is just one more example of L & I making unjustified, poorly thought out changes to an existing rule that will actually hurt employees as well as the general public.</p>	<p>Thank you for your comment.</p> <p>There are no regulations in place that protect employees from the harmful impact of wildfire smoke exposure. Data indicates that all individuals may experience health effects from PM_{2.5} at levels below what the current AQI breakpoints currently indicate; indeed, there is no concentration of PM_{2.5} that is known to be safe.</p> <p>Additionally, outdoor workers are uniquely exposed to higher levels of particulate air pollution, including wildfire smoke, compared to the general public and are regarded by Washington State and EPA to be a “sensitive group” with respect to particulate air pollution.</p>

	<p>Under the adopted rule, employees will have the option to wear respiratory protection when the PM_{2.5} concentration is between 35.5 µg/m³ (101 AQI) and 500.3 µg/m³ (499 AQI). Only once the PM_{2.5} reaches 500.4 µg/m³ (500 AQI), a level the EPA considers hazardous, are respirators required to be worn and a full respiratory protection program implemented.</p> <p>This comment did not result in a change to the adopted rules language.</p>
<p>As a women owned field service and construction company, this is going to hurt my business while doing very little to protect the health of my employees. I can tell you from experience during COVID that my employees will be very unlikely to wear respiratory protection at these proposed air quality levels, but I will still bear the burden of paying for and providing this protection. These rules should be based on people in average health, not the most sensitive. Creating rules based on extremes is not good for anyone. It causes "rule fatigue" and makes it less likely that employees will comply with respiratory protection requirements when they really are needed during the times of truly unhealthy air quality. It is burdensome and unhelpful to create rules that will have low compliance by employees despite employer's best efforts to comply.</p>	<p>Thank you for your comment.</p> <p>This rule applies to workers in outdoor environments. Outdoor workers are uniquely exposed to higher levels of particulate air pollution, including wildfire smoke, compared to the general public and are regarded by Washington State and EPA to be a “sensitive group” with respect to particulate air pollution.</p> <p>This comment did not result in a change to the adopted rules language.</p>
<p>Please, stop making up these frivolous rules on businesses! So let me get this straight. This state legalized marijuana, so now as an employer I have to deal with employees who think smoking pot is the same as having a glass of wine. But yet the state is now on its high horse trying to "protect" grown adults from wildfire smoke? Give me a break, do you not think that Washingtonians can make decisions for themselves?</p>	<p>Thank you for your comment.</p> <p>Wildfire smoke exposure is a recognized hazard to outdoor workers. WISHA mandates that L&I “[p]rovide for the promulgation of health and safety standards and the control of conditions in all workplaces concerning...harmful physical agents which shall set a standard which most adequately assures, to the extent feasible, on the basis of the best available evidence, that no employee will suffer material impairment of health or functional capacity.” As such, L&I’s role is to adopt</p>

<p>Keep pushing employers in this state and they will be packing up shop and moving to a different state.</p>	<p>rules that set standards to protect against occupational hazards that are feasible. L&I conducted a cost-benefit analysis, which is available on L&I’s website.</p> <p>This comment did not result in a change to the adopted rules language.</p>
<p>We are the first step in property development. We drill residential and commercial wells. Operating safely is always a main concern of ours but the new proposed regulations to the Wildfire Smoke Rules are too strict. Our well drillers operate in loud environments and we need to product their ability to communicate in order to do the job safely. Our team members rely on hand signals and the visual cue of someone's mouth moving. Requiring respiratory protection or masks when the AQI is only harmful to the most sensitive people means our teams won't be able to communicate effectively. The end result will be a less safe work environment. These rules are too strict and therefore less likely to be taken seriously. The well drilling industry in Washington State is already in a critical state with many drillers retiring and no licensed drillers to replace them. Our work back log as been as long as 18 months. These rules would only create a larger backlog.</p>	<p>Thank you for your comment.</p> <p>The adopted rule thresholds are based upon ambient PM_{2.5}, which is the primary pollutant of public health concern in wildfire smoke. Conversions to the AQI are provided in the rule to make it easier for employers to comply.</p> <p>There are several reasons why L&I based the wildfire smoke rule on PM_{2.5} rather than AQI:</p> <ul style="list-style-type: none"> • Data indicates that all individuals may experience health effects from PM_{2.5} at levels below what the current AQI breakpoints currently indicate; indeed, there is no concentration of PM_{2.5} that is known to be safe, • The AQI is not designed for use in the occupational environment, • The AQI is not designed as a regulatory tool, • AQI value and its associated health messages may specifically underestimate or inaccurately represent actual health risks to specific individuals and population subgroups, including outdoor workers (Cromar 2020), • Basing the rule on mass concentration of PM_{2.5} instead of the AQI avoids the confusion arising from the composite nature of the AQI. <p>Additionally, outdoor workers are uniquely exposed to higher levels of particulate air pollution, including wildfire smoke, compared to the general public and are regarded by Washington State and EPA to be a “sensitive group” with respect to particulate air pollution.</p>

	<p>The rule does not require respiratory protection until the PM_{2.5} concentration reaches 500 µg/m³ (500 AQI), which is beyond what the EPA considers hazardous for everyone.</p> <p>This comment did not result in a change to the adopted rules language.</p>
Cost Benefit Analysis/Small Business Economic Impact Statement (CBA & SBEIS)	L&I Response
<p>The Department of Labor and Industry’s Small Business Economic Impact Statement (SBEIS) analysis for that proposed rule and its incorrect decision that the rule does not require an SBEIS or small business mitigation.</p>	<p>Thank you for your comment.</p> <p>The Department completed a preliminary cost-benefit analysis, which outlines the methods and information used in determining the costs. As stated in the small business economic impact statement (SBEIS) memo filed with the proposed rule, L&I determined the average cost per businesses likely impacted by the rule. As analyzed in the SBEIS memo, L&I estimated the total cost of compliance with the proposed rule for each year from 2023-30 for all the affected businesses. Based on this cost range and the share of affected businesses in each industry estimated in the SBEIS memo, the average cost was less than the minor cost threshold of impacted businesses. As such, an SBEIS was not required for this rulemaking pursuant to RCW 19.85.030(1).</p> <p>While an SBEIS was not required for the rule adoption, L&I did review the small business impact measures in RCW 19.85.030(2) prior to proposing the rule and we have updated the SBEIS memo to reflect the mitigation measures we considered and are taking.</p> <p>This comment did not result in changes to the adopted rules language.</p>
<p>WSR 23-13-069 proposing wildfire smoke regulation will cost construction contractors, plumbers, electricians, landscapers, painting contractors, etc. big and small, and their customers, an estimated \$2.7 Billion or more per year</p>	<p>Thank you for your comment.</p> <p>L&I completed a preliminary cost benefit analysis, which outlines the methods and information used in determining the costs. As stated in</p>

<p>and impose more regulatory inflation on small businesses and violates RCW 19.85 and cannot be adopted as proposed because it violates RCW 19.85.</p> <p>The Department completed a Small Business Economic Impact Statement pursuant to RCW 19.85 that was totally inadequate, and which totally failed to accurately reflect the cost of this regulation on small businesses affected by this proposed rule based on the Department false assumptions.</p>	<p>the small business economic impact statement (SBEIS) memo filed with the proposed rule, L&I determined the average cost per businesses likely impacted by the rule. As analyzed in the SBEIS memo, L&I estimated the total cost of compliance with the proposed rule for each year from 2023-30 for all the affected businesses. Based on this cost range and the share of affected businesses in each industry estimated in the SBEIS memo, the average cost was less than the minor cost threshold of impacted businesses. As such, an SBEIS was not required for this rulemaking pursuant to RCW 19.85.030(1).</p> <p>This comment did not result in changes to the adopted rules language.</p>
<p>The Department assumed, incorrectly, that it would take one minute to check the PM 2.5 levels per day. As stated in its Small Business Economic Impact Statement (SBEIS) filed with the proposed rule on page 3 of the SBEIS: “Based on internal technical staff estimates employers would spend about one minute checking PM2.5 levels and would do so at an increasing frequency as the PM2.5 levels increase.”</p> <p>The Department also included the following statement with that SBEIS estimate. Measures in its footnote 6: “This time would vary depending on various reasons, for instance the method the employer uses to obtain measures”</p> <p>The Department’s 1 minute estimate is totally unjustified and incorrect based on its Footnote 6 for the following reasons:</p> <p>Checking the PM2.5 levels must be a daily scheduled activity to meet the requirements of the proposed rule.</p>	<p>Thank you for your comment.</p> <p>The SBEIS memo estimates are taken from the cost-benefit analysis.</p> <ul style="list-style-type: none"> • The adopted rule does not assign the task of checking PM_{2.5} levels to a particular employee. Employers have flexibility in assigning this responsibly as they develop their Wildfire Response Plan. For the purposes of the cost-benefit analysis, L&I used costs for the supervisor personnel. Supervisors are required to be trained on the procedures to follow to implement rule requirements, including the identification of harmful exposure requirements. Checking PM_{2.5} levels is straightforward with the internet and use of various electronic devices such as a smart phone or tablet. Some employers will sign up for ‘Enviroflash’, a notification system done in partnership with the US EPA that sends that messages on air quality to subscriber’s emails or mobile phones. On average, it is not expected to cause much of disruption of the current activity. • The proposed and adopted rule provides a list of sources including websites that an employer can use to check the PM_{2.5} levels. As a result, employers will not need to identify which website(s) to use in order to obtain PM_{2.5} levels. The adopted rules also adds that an

- Workers checking the PM 2.5 levels as required are not just sitting by idly doing nothing. They must transition from their current work activity to the check of the PM 2.5 levels (workers may be working in different locations so multiple checks may be required by an affected; That transition would require the worker to finish or interrupt their current project, transition to checking the PM 2.5 levels: 10 – 15 minutes
- Identify and get on the correct website(s) to check the PM 2.5 levels: 10 – 15 minutes
- Compare the PM 2.5 levels to worker wildfire protection levels and determine if worker wildfire protection is required 10 – 20 minutes
- Document those levels for compliance purposes: 10 – 15 minutes
- Communicate with management if PM 2.5 levels required contacting the affected employees: 10 – 15 minutes
- The worker who checked the PM 2.5 levels must transition back to their other work activities following checking the PM 2.5 levels: 10 – 15 minutes

Real world time for checking PM 2.5 levels as required by the proposed rule is 25 minutes to 50 minutes per PM 2.5 check and checks are to be done at a minimum of 2 times per day as provided in the proposed rule.

The Department actually contradicts itself on page 4 of the SBEIS when the Department states “Second, L&I assumes that the number of checks needed during the day in addition to the initial check...” Yet the Department’s

employer’s Wildfire Response Plan include the employer’s methods of determining the current PM_{2.5} under WAC 296-820-815.

- As part of the hazard communication requirement, WAC 296-820-820(1) requires informing employees when PM 2.5 levels exceed certain thresholds. This section implicitly addresses the concern in the comment, and any associated costs have been assessed there. In addition, the air quality data shows that during 90% of time in a wildfire season, the daily maximum PM_{2.5} was far below the minimum threshold for any action required by this rule. Therefore, the determination about whether any protection is required can be made instantly in vast majority of cases.
- The adopted rules does not have a requirement for documenting PM_{2.5} levels which have been obtained by the employer if the employer uses the regulatory monitoring network. Non-agricultural employers are subject to chapter 296-802 WAC if they conduct their own monitoring using direct reading instruments. There is no requirement in the rule to use direct reading instruments.
- There is no requirement for PM_{2.5} levels obtained under proposed WAC 296-820-815 to be communicated to management. The hazard communication requirement (WAC 296-820-820) is the section of the proposed rule that addresses action needed when PM_{2.5} levels require communicating with affected employees. L&I has accounted for any time requirement and assessed this cost in that respective section.
- As states above, the adopted rule does not assign the task of checking PM_{2.5} levels to a particular employee. The employer makes this decision. On average, it is not expected to cause a disruption of the current activity.

<p>SBEIS assumes one PM 2.5 level check per day in most cases.</p>	<p>As such, checking the PM_{2.5} levels, on average, is expected to take one minute.</p> <p>As to the assertion that the cost is based on only one check per day in all cases and that this contradicts other information in the SBEIS memo, L&I advises that its analysis considers at least one check per day during the wildfire season, not “only” one check per day. To capture this, L&I did calculate the cost for days when additional checks were needed. See information on pages 3 and 4 of the SBEIS memo including Tables 3.1 and 3.2 (information also on pages 29 and 30 of the preliminary cost-benefit analysis, including Tables 2.2 and 2.3).</p> <p>This comment did not result in a change to the adopted rules language.</p>
<p>This is a more accurate estimate than what is listed in the CBA:</p> <p>The Department’s assumption of 153 days is totally inaccurate. Wildfire season in Washington State is 164 days.</p>	<p>Thank you for your comment.</p> <p>The estimate of 153 days for a wildfire season is based on the count of days from June through October. Most wildfires occur during these months.</p> <p>This comment did not result in a change to the adopted rules language.</p>
<p>This is a more accurate estimate than what is listed in the CBA:</p> <p>The Department makes another ridiculous assumption on page 2 of its SBEIS that only 13,443 construction businesses will be affected by the rule when in fact the Department has 160,000 registered contractors in WA State. The Department states on page 12 of its SBEIS the cost for construction employer costs will be from \$232 - \$314 and the Minor Cost Threshold for Construction is: \$5,852. The estimated costs for each construction</p>	<p>Thank you for your comment.</p> <p>L&I estimated the number of affected businesses in each industry based on two datasets: the existing data of outdoor workers in each occupation and the data of occupational employment by each industry in Washington State. Please check Section 1.6 in the final cost-benefit analysis report for more details about the whole process of this estimate.</p> <p>This comment did not result in a change to the adopted rules language.</p>

<p>contractor ranges between \$9,066.60 and \$12,693.24 well above the \$5,852 Minor Cost Threshold for Construction.</p>	
<p>The recent wildfire smoke events on the east coast demonstrate the need to consider what happens if the AQI surpasses 500.8 In DOSH’s preliminary cost-benefit analysis report, DOSH assumes that, based on historical data, there will be an average of one day each year when the AQI is 500 and beyond and suggests that “in situations of extremely high PM_{2.5} levels, which is hazardous to health, employers could simply stop work to ensure worker safety.”</p> <p>Simply stopping work may not be an option or practical for employers who have time-sensitive projects and operations. With how the proposed rule is written, employers have little choice but to anticipate the burden and costs of a full respiratory protection program and quantitative fit-testing or purchasing powered air purifying respirators (PAPRs).</p> <p>This may be one of many unintended consequences of the proposed rule.</p>	<p>Thank you for your comment.</p> <p>L&I relied on the most recent five-year air quality data available to us to make the estimates of impact of the rule. This impact is averaged to a statewide level instead of a specific geographic area(s).</p> <p>Wildfire smoke exposure is a recognized hazard to outdoor workers. WISHA mandates that L&I “[p]rovide for the promulgation of health and safety standards and the control of conditions in all workplaces concerning...harmful physical agents which shall set a standard which most adequately assures, to the extent feasible, on the basis of the best available evidence, that no employee will suffer material impairment of health or functional capacity”. In developing the adopted rules, L&I considered the wildfire smoke regulations from California and Oregon, and the current best evidence on wildfire smoke exposure. Both Oregon and California require a full respiratory protection program when the AQI exceeds 500.</p> <p>This comment did not result in a change to the adopted rules language.</p>
<p>Did the preliminary cost benefit analysis include the effects of inflation for all goods and services? For example, where did DOSH find that the average cost of a typical N95 respirator is \$0.40 to \$1.40?</p>	<p>Thank you for your comment.</p> <p>L&I accounted for the effects of inflation for both cost and benefits throughout the study period.</p> <p>The average cost range for a typical N95 respirator was determined from a list of vendors that sell the N95 respirators required by the rule. L&I conducted several online searches to determine the average price of a NIOSH-approved N95 respirator.</p>

	This comment did not result in a change in the adopted rules language.
Several employers have requested that the Department conduct a cost-benefit analysis for the final rule.	<p data-bbox="989 233 1373 266">Thank you for your comment.</p> <p data-bbox="989 306 1879 410">L&I published a preliminary cost-benefit analysis on the proposed rules. The final cost-benefit analysis for the adopted rules is available on L&I's website.</p> <p data-bbox="989 451 1892 483">This comment did not result in a change in the adopted rules language.</p>