

# Wildfire Smoke Stakeholder Meeting - April 27, 2022

## Questions and Answers

As a follow-up to the wildfire smoke meeting held on April 27, 2022, and in an effort to promote transparency and share information with stakeholders, the Department of Labor & Industries (L&I) has drafted this document to provide a copy of the questions asked during the meeting, as well as responses to those questions. All questions and feedback received by stakeholders will be considered as L&I finalizes the emergency rule language.

QUESTION NUMBER	NAME	QUESTION	ANSWER
1.	Andre Zwanenburg	In this year's emergency rule, like in last year's rule, there are 2 different extensions used to indicate dust in the air (ug/m3, AQI). Why do we not use 1 number (AQI) in this rule, as the rule does not talk about air sampling at all. I have many students that think the use of 2 different numbers is very problematic and therefore harder to use, and therefore harder to have the company comply.	<ul style="list-style-type: none"> <li>• The rule is primarily based on PM<sub>2.5</sub>, upon which the AQI is also based.</li> <li>• AQI is used by EPA as a communication tool and science is looking at µg/m<sup>3</sup> PM<sub>2.5</sub>.</li> <li>• The Environmental Protection Agency (EPA) is looking at changing AQI and our rule didn't necessarily need to be updated if AQI is changed.</li> <li>• The draft rule contains a table to convert AQI to PM<sub>2.5</sub> under WAC 296-62-08530.</li> <li>• We need to have both because AQI is commonly used but PM<sub>2.5</sub> is what is used in the scientific literature. We did not want to limit the tools that are available.</li> <li>• We understand concerns about using more than one, and encourage people to pick the one that best fits their needs for use at their workplace.</li> </ul>
2.	Robyn Herring	Will the mobile app sites increase the number of locations they provide data for AND allow us to get data for more than one location?	<ul style="list-style-type: none"> <li>• These apps are using regulatory monitoring sites for most of their data and those are permanent, fixed monitors.</li> <li>• During wildfire smoke events, temporary monitors are put in place to increase coverage in strategic locations.</li> <li>• EPA also lists low-cost sensors so other people can feed data from their monitors into EPA website.</li> <li>• L&amp;I doesn't directly control these sites or mobile apps, but there is the possibility that the controlling agencies will be able to fund additional monitoring in the future.</li> </ul>
3.	Matt Harris	Can KN95 masks be used or only N95 masks?	<ul style="list-style-type: none"> <li>• 2022 draft emergency rule requires that masks be NIOSH-approved respirators, which doesn't include KN95s.</li> </ul>

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			<ul style="list-style-type: none"> <li>• KN95 masks were allowed for the 2021 wildfire smoke season based the PPE shortage at that time due to the COVID-19 pandemic. A PPE shortage of that nature does not currently exist.</li> </ul>
4.	Anonymous	Who/what agencies will be issuing community advisories?	<ul style="list-style-type: none"> <li>• Washington Department of Ecology, Department of Health, local clean air agencies such as Puget Sound Clean Air Agency, Olympic Region Clean Air Agency, and Spokane Regional Clean Air, local health agencies, etc.</li> </ul>
5.	Jesus Tapia	It was mentioned this rulemaking if taken into consideration will be in effect from June-Sept. If wildfires take place at any time after the month of September, are employers still in compliance in keeping their employees safe with no respirator usage?	<ul style="list-style-type: none"> <li>• Per the Administrative Procedures Act, emergency rules are in place for 120 days.</li> <li>• If the wildfire smoke season extends longer than 120 days, L&amp;I may renew the emergency rule.</li> </ul>
6.	Anonymous Attendee	Is there a specific cabin filter MERV rating required for enclosed vehicles?	<ul style="list-style-type: none"> <li>• There isn't a requirement for MERV filter rating in this rule. Having properly maintained cabin air filters is appropriate for this rule.</li> <li>• There will be variability in how those work but that is not currently addressed in this rule at this point.</li> <li>• Employers are welcome, and encouraged to improve the controls beyond what the rule requires to protect their workers.</li> </ul>
7.	Sarah Rasmussen	Can you please provide the scientific reason for dropping the threshold for providing respirators from 151 AQI to 101 AQI, other than that's what Oregon is using?	<ul style="list-style-type: none"> <li>• We gave careful consideration to this, and provided scientific background at a previous stakeholder meeting in January 2022. This is a good resource to get background and information from studies, available here: <a href="https://lni.wa.gov/safety-health/safety-rules/rulemaking-stakeholder-information/WildFire/Wildfire-Health-Threats.pdf">https://lni.wa.gov/safety-health/safety-rules/rulemaking-stakeholder-information/WildFire/Wildfire-Health-Threats.pdf</a> and here: <a href="https://lni.wa.gov/safety-health/safety-rules/rulemaking-stakeholder-information/WildFire/Trend-and-Effects-of-Wildfire-Smoke.pdf">https://lni.wa.gov/safety-health/safety-rules/rulemaking-stakeholder-information/WildFire/Trend-and-Effects-of-Wildfire-Smoke.pdf</a></li> <li>• There are significant health risks below AQI of 151 that needed to be considered when selecting the threshold.</li> <li>• Reducing to AQI of 101 means workers will have access to protection such as PPE at lower levels, but still does not mitigate all potential health impacts.</li> </ul>

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8.	Andre Zwanenburg	How does an employer know if the PM2.5 is from wild fire smoke and not just bad air?	<ul style="list-style-type: none"> <li>• The scope of the rule applies when there's reasonable anticipation of exposure to wildfire smoke.</li> <li>• If there are no wildfires, it is likely safe to assume that wildfire smoke is not the cause.</li> <li>• Levels above AQI of 69 are pretty rare if there is not wildfire smoke, especially if you're getting up much higher than number that in this region. Studies linked on our website note this, and state it is typically safe to assume there is wildfire smoke if above AQI 69. Those studies are available here: <a href="https://lni.wa.gov/safety-health/safety-rules/rulemaking-stakeholder-information/wildfire-smoke#additional-resources">https://lni.wa.gov/safety-health/safety-rules/rulemaking-stakeholder-information/wildfire-smoke#additional-resources</a></li> </ul>
9.	Chris Evola	If I have employees outside intermittently but they are able to go back inside is this required in an APP or would each time they are outside count to the 1 hour time limit?	<ul style="list-style-type: none"> <li>• If you have employees who go inside and outside, they would have a total of one hour outside each day (24 hour period) before they fall under the scope of rule.</li> <li>• Employees don't have one hour each time they go outside. It would be one hour total for day before you're under scope of rule. This is intended for workers who are mostly working inside, but may go outside for small tasks, such as taking out trash, and not necessarily for outdoor workers.</li> <li>• The same answer would apply at higher smoke levels where threshold is cut down to 15 minutes. In that short period of time, you're getting as much, or more exposure, as you would be at lower levels.</li> <li>• A wildfire smoke response plan must be included in your APP if you have any employees who are reasonably likely to be exposed to wildfire smoke for more than 1 hour (or 15 minutes at AQI 301 or higher).</li> </ul>
10.	Noemi Sanchez	Buses, light rails etc. where doors and windows are closed are not included in the exemption. Public transportation which opens their doors frequently are exempt. What about delivery drivers UPS/Amazon/FedEx/USPS who are often in and out of their vehicles, walking several	<ul style="list-style-type: none"> <li>• Two potential rule exemptions that apply.</li> <li>• There is the vehicle exemption, which includes vehicles with cabin air filters where doors and windows are kept closed.</li> <li>• The other exemption is the time exemption: one hour, or 15 minutes, at high levels.</li> <li>• If the delivery person is in their vehicle with doors and windows closed most of time with the cabin air filter, and are outside of</li> </ul>

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		blocks and are exposed to wildfire smoke? Does LNI agree that these workers are in and out of their vehicles dozens of times a day and that mean they are at risk from PMI?	<p>vehicle for less than one hour per day, then they would be exempt. But if they're outside of their vehicle for more than one hour per day, or 15 minutes per day at AQI 301 or higher, they are not exempt.</p> <ul style="list-style-type: none"> <li>Some drivers would be exempt, but many are outside their vehicle too much, or do not keep doors and windows closed and would be included under the scope of the rule.</li> </ul>
11.	Ariel Piedmont	Ariel Piedmont, Sound Transit Industrial Hygiene Project Manager, in reference to Slide 18: Sound Transit remains extremely concerned and opposed to the public transit vehicle exclusion from the enclosed vehicle exemption from this rule. Such an exclusion prevents us from getting credit for our engineering controls (positive pressure and enhanced filtration) and administrative controls (single door boarding to reduce outside air exchange when the door is open) for which we have demonstrated to effective at significantly reducing ambient outdoor particulates into our transit vehicles even with frequent door opening. We look forward to working with the department to justify eliminating this exemption exclusion while ensuring that our operators (and passengers) are protected from this wildfire smoke hazard.	<ul style="list-style-type: none"> <li>Here are some of our thoughts related to this matter: <ul style="list-style-type: none"> <li>There may be some areas of public transit vehicles that meet the exemption at 296-62-08510(2)(b), such as operators in an enclosed cab, as they may be protected from doors opening and closing.</li> <li>If an employer can show that the exposure controls installed on public transit bring PM<sub>2.5</sub> levels below 35 µg/m<sup>3</sup> (AQI 101), the employer would not be required to provide respirators for voluntary use, and where exposure controls bring PM<sub>2.5</sub> levels below 555 µg/m<sup>3</sup> required use of more protective respirators would not be required.</li> <li>The draft emergency rule allows employers to conduct direct reading of PM<sub>2.5</sub> in order to get more localized data on wildfire smoke levels in their workplaces.</li> </ul> </li> </ul>
12.	Anonymous Attendee	Where does the trigger level 69 come from? Why do the trigger levels begin before the unhealthy levels. All other standards are written for standard healthy working adults.	<ul style="list-style-type: none"> <li>PM<sub>2.5</sub> is the basis of this rule and scientific literature. AQI of 69 is equivalent to PM<sub>2.5</sub> to 20.5 µg/m<sup>3</sup>: <a href="https://lni.wa.gov/safety-health/safety-rules/rulemaking-stakeholder-information/wildfire-smoke">https://lni.wa.gov/safety-health/safety-rules/rulemaking-stakeholder-information/wildfire-smoke</a></li> <li>AQI 69 (20.5 µg/m<sup>3</sup>) is one of cut points and exposures above 69 AQI are typically from wildfire smoke. The trigger level includes training for wildfire smoke hazard. This is the level where the literature shows there are still significant health impacts.</li> </ul>

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			<ul style="list-style-type: none"> <li>• The trigger levels are taken from the Environmental Protection Agency's (EPA)'s AQI, and those levels aren't especially protective. Most other standards for air quality are lower than EPA's, and the EPA is currently re-evaluating that level. There is recommendation from their scientific committee to lower those levels.</li> <li>• Occupational Safety and Health Administration (OSHA) regulations are for providing safe and healthy workplace for workers, and we are making sure that rule is protective for all workers. Workplace safety regulations are required to cover all workers, and not exclude those in the sensitive group category. All workers are entitled to a safe and healthy workplace.</li> </ul>
13.	Andre Zwanenburg	Why do we continue to mention other States? We are in Washington State, should we not make our own rule, that is for our employees?	<ul style="list-style-type: none"> <li>• As a matter of public policy, L&amp;I looks at what other states have done on any topic that the agency regulates in order to remain aware of regulatory trends</li> <li>• During the 2021 wildfire smoke rulemaking, stakeholders requested that WA, OR, and CA coordinate with each other to ensure the rules do not conflict, and are aligned in feasible ways to make it easy for workers and employers working in multiple states to comply with all regulations.</li> <li>• This rulemaking is creating a Washington specific rule. There are parts where we don't directly align with the OR or CA rules, and those decisions were based on our rulemaking environments and own scientific analysis.</li> <li>• We are working with CA and OR OSHA rulemaking teams, Washington State Department of Ecology (DOE), and the Washington State Department of Health (DOH) to make sure we have the best information and as much alignment as possible.</li> </ul>
14.	Anonymous Attendee	Agree, Andre. These rules must be based on good data and research and we have yet to hear that reasoning for this.	<ul style="list-style-type: none"> <li>• We shared data and research, and invited two external experts that came to speak at stakeholder meeting in January 2022. You can view the data that was presented here: <a href="https://lni.wa.gov/safety-health/safety-rules/rulemaking-stakeholder-information/_WildFire/Wildfire-Health-Threats.pdf">https://lni.wa.gov/safety-health/safety-rules/rulemaking-stakeholder-information/_WildFire/Wildfire-Health-Threats.pdf</a> and here: <a href="https://lni.wa.gov/safety-health/safety-rules/rulemaking-">https://lni.wa.gov/safety-health/safety-rules/rulemaking-</a></li> </ul>

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			<a href="#">stakeholder-information/ WildFire/Trend-and-Effects-of-Wildfire-Smoke.pdf</a>
15.	Robyn Herring	Is there a mobile app that provides push notifications when the AQI in your selected location exceeds the threshold?	<ul style="list-style-type: none"> <li>• <a href="#">enviroflash.info</a>. There may be others as well, and others may be created in the future.</li> </ul>
16.	Andre Zwanenburg	Also can the slide with the respirator protection come back on screen please (I think slide 19 or 20) and can Chris explain those protection number one more time please?	<ul style="list-style-type: none"> <li>• Slide 22: <a href="https://lni.wa.gov/safety-health/safety-rules/rulemaking-stakeholder-information/ WildFire/WildfireSmokeStakeholderMeeting4-27-2022.pdf">https://lni.wa.gov/safety-health/safety-rules/rulemaking-stakeholder-information/ WildFire/WildfireSmokeStakeholderMeeting4-27-2022.pdf</a></li> <li>• Far left column is PM<sub>2.5</sub> in µg/m<sup>3</sup>, also listed with the associated AQI index and hazard message to its right.</li> <li>• In the four columns on the right, you have N95, loose fitting PAPR, full face respirator, full face PAPR.</li> <li>• The table shows the PM<sub>2.5</sub> level that would be inside a properly fitted respirator based on the PM2.5 level (AQI) outdoors, and the assigned protection factor (APF) of the respirator.</li> <li>• For example, a properly fitted N95 has an APF of 10 which means that the PM2.5 concentration inside the respirator would be 10 times less than outside. If the PM2.5 is 555 µg/m<sup>3</sup> (Beyond the AQI) outside, a worker wearing a properly fitted respirator would be breathing 55.5 µg/m<sup>3</sup> (AQI 151 unhealthy) inside their respirator.</li> </ul>
17.	Corwyn Fischer	What does it mean if there is a wildfire near you? How near before I need to take air quality readings?	<ul style="list-style-type: none"> <li>• The scope of the rule includes when there is reasonable anticipation of exposure to wildfire smoke. It is not dependent on physical distance from the fires, but the concentration of wildfire smoke at an employer's location.</li> <li>• Wildfire smoke can travel extreme distances, and impact air quality far from the fires.</li> <li>• Information about wildfire smoke is typically reported in media, weather channels provide this info, and people can also get information from the EPA's air quality website (<a href="#">AirNow.gov</a>) or WA DOE's AQI map (<a href="#">Interactive Maps (wa.gov)</a>) will provide info. Another resource is WA Smoke Blog (<a href="https://wasmoke.blogspot.com/">https://wasmoke.blogspot.com/</a>), which</li> </ul>

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			provides detailed information on what is happening throughout the wildfire season.
18.	Anonymous Attendee	Regarding enclosed buildings - Buildings designed and operated with a mechanical ventilation system per Washington State Building Code chapter 4 (or as locally amended) have dampened openings to draw in outdoor ventilation air when spaces are occupied. Do these systems meet the "enclosed" definition?	<ul style="list-style-type: none"> <li>• There is no mechanical ventilation requirement in this emergency rule, so buildings need to keep doors and windows closed as much as possible to be part of exemption. Best practices would be to adjust ventilation system to minimize outdoor air coming in and maximize filtration.</li> <li>• There is good information from Washington State DOH and DOE, and also federal agencies, about best practices for keeping clean air inside buildings. This is not under rule scope currently. L&amp;I recommends using resources to improve buildings air quality as much as possible. <a href="https://doh.wa.gov/sites/default/files/legacy/Documents/Pubs//333-208.pdf?uid=62741c4fdf17e">https://doh.wa.gov/sites/default/files/legacy/Documents/Pubs//333-208.pdf?uid=62741c4fdf17e</a></li> <li>• DOH also has recommendations for improving indoor air quality from wildfire smoke during the COVID-19 pandemic: <a href="https://doh.wa.gov/sites/default/files/legacy/Documents/Pubs//821-144.pdf?uid=62571161f2243">https://doh.wa.gov/sites/default/files/legacy/Documents/Pubs//821-144.pdf?uid=62571161f2243</a></li> </ul>
19.	Travis Englehart	Understanding this is an emergency rule, has DOSH given any consideration at all to the safety and economic impacts of requiring participation in a full respiratory protection program and wearing a full-face respirator? I understand the economic impact analysis is not required here, but it seems this emergency rule could have the effect of shutting down many/all forms of outdoor work in conditions beyond the AQI chart. The respirators themselves can also inhibit safe performance of certain tasks.	<ul style="list-style-type: none"> <li>• For this particular draft emergency rule, mandatory respirators would be required at 555 µg/m<sup>3</sup>. This level is extremely high, impacting not only respiratory health but visibility. These levels are very rare and unexpected to occur.</li> <li>• Cost of compliance is always a part of L&amp;I's discussions when drafting any rule. Under the Administrative Procedures Act, a specific cost benefit analysis is not required for emergency rule, but will be required in permanent rule. While we don't have a cost-benefit analysis performed for this rule, we do have information to indicate that this would be a feasible control and is necessary and appropriate to protect workers from hazardous exposures at this level.</li> <li>• We have heard from many employers that their plans include shutting down at levels far lower than this, and we don't have any plans of requiring employers to shut down. We are providing options for how continued work can be done.</li> </ul>

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20.	Anonymous Attendee	WAC 296-62-08570, (3) (a) - Define 'adequately filtered.' Where buildings use recirculating HVAC systems with MERV 8 filters (with effectiveness ~20% for 1-3 microns), it seems indoor spaces may exceed 20.5µg/m <sup>3</sup> if outdoor conditions exceed approximately 85µg/m <sup>3</sup> (at 30%outside air). Where buildings use 100% outside air systems with MERV 13 filters (with effectiveness ~85% for 1-3 microns), it seems indoor spaces may exceed 20.5µg/m <sup>3</sup> if outdoor conditions exceed 137µg/m <sup>3</sup> .	<ul style="list-style-type: none"> <li>• MERV ratings for filtration aren't necessary for this rule. If an employer keeps doors and windows closed, except when entering/exiting, they will likely have removed workers from the scope of this rule, and don't have to worry about adequate filtration.</li> <li>• Adequate filtration is included as an engineering control for buildings where doors and windows may not be able to remain adequately closed. There is no specific MERV rating that DOSH will be looking for.</li> <li>• This rule includes minimum requirements for worker safety. Best practices could improve on this.</li> </ul>
21.	Anonymous Attendee	Referring to WAC 296-62-08570 (2) Where the NowCast PM2.5 is 35.5 µg/m <sup>3</sup> (AQI 101) or more, the employer must implement exposure controls whenever feasible. Who determines feasibility, and based on what decision-making criteria?	<ul style="list-style-type: none"> <li>• Feasibility will depend on the specific nature of workplace. There is no one size fits all determination of feasibility.</li> <li>• Employers will need to evaluate their specific conditions, and assess and decide what is feasible to them. For example, if you're working in a shop where the door is open and you can just close door, that'd be a feasible engineering control. If you're doing work outside that can be moved inside, that would be feasible. If you're picking apples, moving inside isn't feasible. However, is if there is high exposure, an alternative would be to reschedule work, or move work to a location with lower exposure. Another option could be reducing work and adding more break periods.</li> </ul>
22.	Noemi Sanchez	From the draft rule "Enabling and encouraging employees to inform the employer of: (a) Worsening air quality; and(b) Availability issues of appropriate exposure control measures and respiratory protection required by this standard; and" What does LNI mean by the word "enabling"? Are you saying you'll create retaliation protections? Install some system by which people can submit information? Do trainings? What action does this actually	<ul style="list-style-type: none"> <li>• Retaliation protections do exist in the form of the DOSH discrimination program. Employees have a right to file a complaint regarding discrimination in regard to their safety. For more information, see here: <a href="https://www.lni.wa.gov/workers-rights/workplace-complaints/discrimination-in-the-workplace">https://www.lni.wa.gov/workers-rights/workplace-complaints/discrimination-in-the-workplace</a></li> <li>• There is required training related to wildfire smoke in the draft 2022 emergency rule</li> <li>• Enabling means that employees are encouraged to inform the employer of concerns regarding the availability of resources, or worsening air quality, and that they have the methods and means to do so.</li> </ul>

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		require on the part of the employer implementing this kind of system?	<ul style="list-style-type: none"> <li>Employers need to create mechanisms that can be put in place and use them. Action will depend on workplace. DOSH would be evaluating whether employees were actually able to and encourage the employer on these topics.</li> </ul>
23.	Noemi Sanchez	A follow up on point (b) "Availability issues of appropriate exposure control measures and respiratory protection required by this standard;" What does "availability issues" mean? Employees are supposed to tell their employers when the employees aren't getting the equipment that can protect the employee from the employer? This is not clear to me. Can you clarify what this point means?	<ul style="list-style-type: none"> <li>For example, when it's above 101 AQI, this would be a level of voluntary use of N95s, and at that level the employer must have N95s available.</li> <li>If workers are unable to get access to PPE, then there must be ways set up to communicate that to their employer, i.e. phone number to call, or some other communication method, to inform the employer of the need for N95s.</li> </ul>
24.	Anca Bejan	Would you please share how many days of 2021 did the AQI index exceed 69, 101, or 555?	<ul style="list-style-type: none"> <li>This will depend on your location. This information is available on the EPA website: <a href="https://www.epa.gov/outdoor-air-quality-data">https://www.epa.gov/outdoor-air-quality-data</a></li> </ul>
25.	Noemi Sanchez	In the draft rule under Appendix B it explicitly names "outdoor workers" - how is LNI defining outdoor workers? are UPS, Amazon, Fed Ex, etc included in the definition of outdoor worker?	<ul style="list-style-type: none"> <li>Appendix B is the appendix that includes training and information that must be provided to workers, and the term "outdoor workers" was used in that location for clarity.</li> <li>There is no specific definition of outdoor worker in the rule, but it is implied in the scope of the rule based on the location where work is being performed.</li> </ul>
26.	John Gancel	If in Tumwater WA the AQI is 71 and there is no fire this rule does not apply, if there is a fire in Eastern Washington do i have to consider this rule, or only if i smell smoke outside? If i have to consider anytime there is a wildfire how do i determine if it is pollution or wildfire smoke?	<ul style="list-style-type: none"> <li>This is getting at reasonable anticipation to exposure of wildfire smoke above 69 AQI.</li> <li>There is no set distance away from actual fire because smoke can travel long distances.</li> <li>If you smell smoke that is a good indicator you may have exposure to wildfire smoke.</li> </ul>
27.	Stephanie Strom	Is there historical data of AQI readings in West Washington? How frequently does the AQI rise above 555?	<ul style="list-style-type: none"> <li>It is unlikely that the PM<sub>2.5</sub> concentration will rise above 555 µg/m<sup>3</sup>. This is beyond where the AQI ends.</li> </ul>

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			<ul style="list-style-type: none"> <li>PM<sub>2.5</sub> concentration will depend on your location. This information is available on the EPA website: <a href="https://www.epa.gov/outdoor-air-quality-data">https://www.epa.gov/outdoor-air-quality-data</a></li> </ul>
28.	John Gancel	How close is close enough to a monitoring site?	<ul style="list-style-type: none"> <li>There are a multitude of monitoring locations across the state available for reference.</li> <li>As part of this rule, there is a safe harbor. If you're using closest monitoring site, that will be accepted. There is no distance that we have specified.</li> <li>We recognize that monitors a distance from a worksite could be slightly different than a direct reading instrument on site. Employers do have the option of using direct read instruments to get more accurate reading of a particular worksite.</li> </ul>
29.	Anca Bejan	Given the high cost of the respirators required under this rule (full face and PAPR units) what financial assistance is available from LNI?	<ul style="list-style-type: none"> <li>Full face respirator and PAPR are the only required use respirators, and these come into play at 555 µg/m<sup>3</sup>. This level is above AQI scale. These levels present a serious hazard to workers and are unlikely to occur.</li> <li>If an employer wanted to continue work, they would be responsible for ensuring that their employees are protected at that level.</li> <li>The DOSH consultation program would be happy to consult on your efforts to obtain N95 respirators in advance of the 2022 wildfire smoke season, and protect your employees from the hazard posed by wildfire smoke exposure.</li> </ul>
30.	Shawn Ringo	Shawn Ringo with WSU, we had a 2 week stretch from the middle of July to the beginning of September, and another week in September where we were frequently above 35 ug/m3. I'm concerned an important message about voluntary respirator use will get washed out if we repeat it too frequently, i.e. at the bottom of the unhealthy for sensitive groups category. Have we considered that?	<ul style="list-style-type: none"> <li>There are a lot of hazards that workers are exposed to on a daily basis, and it is the responsibility of the employer to have training for exposure to hazards that may seem normal.</li> <li>This is a challenge with any workplace safety issue, in that people can become normalized to the danger.</li> <li>We set the threshold at a level that poses a hazard to workers and not before hazard starts.</li> </ul>

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31.	Noemi Sanchez	"Check the NowCast PM2.5 before and periodically during each shift." - what does periodically mean?	<ul style="list-style-type: none"> <li>Periodically is going to depend on the location of the workplace and also the air conditions. At lower levels, this might be less often. In situations where wildfire smoke conditions are changing, you may need to check more frequently.</li> <li>We didn't specify a certain time because we didn't want people to check every hour where wildfire wasn't changing. It is up to the employer how often they check so they can provide appropriate protection requirements by the rule.</li> <li>NowCast numbers are updated hourly, which means checking more than that wouldn't be beneficial. The employer can look at the forecast and if the forecast is to go above threshold, that would be a good indication to check more frequently, as the information is updated.</li> </ul>
32.	Noemi Sanchez	Will there be a definition of what "engineering and administrative" controls are going to look like?	<ul style="list-style-type: none"> <li>There isn't a definition because it can vary based on workplace. However, we do have examples listed in draft rule. Examples include moving workers indoors or enclosed areas with portable HEPA filters, moving workers to locations where air quality is better, or working at times where air quality is better.</li> </ul>
33.	Shawn Ringo	Shawn Ringo with WSU again, if I have a location with nearby TEOM or BAM data, but a nephelometer is closer, am I allowed to pick the more reliable monitor data i.e. TEOM and BAM over the nephelometer that also often operates on rolling averages?	<ul style="list-style-type: none"> <li>Shawn, we believe that you are referring to monitoring sites that are listed on EPA or Department of Ecology's website; not all of them use same technology to measure PM<sub>2.5</sub>.</li> <li>On the EPA website, there are different displayed shapes for regulatory monitors and other monitors. If you know there is a more reliable monitor, you can choose to use that one over monitors that are closest to you, but it is still acceptable to use the closest monitor.</li> </ul>
34.	Anonymous	So why not allow KN95's this year since they were allowed last year? Other than they are not NIOSH-approved, what data do you have that they are not protective?	<ul style="list-style-type: none"> <li>KN95 are not certified by NIOSH, and as such, they cannot be guaranteed to provide protection to the wearer             <ul style="list-style-type: none"> <li>KN95 have not been allowed for the purposes of respiratory protection in an occupational setting prior to the pandemic</li> <li>There is high variability among the quality of KN95: NIOSH found that about 60% of KN95 respirators they evaluated in 2020 and 2021 "did not meet the requirements that they intended to meet (<a href="#">International Assessment Results   NPPTL   NIOSH   CDC</a>). This is separate from concerns about the fit of KN95. FDA also revoked their</li> </ul> </li> </ul>

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			<p>emergency use authorization for non-NIOSH-approved disposable FFRs nearly a year ago: <a href="#">Revoked EUAs for Non-NIOSH-Approved Disposable Filtering Facepiece Respirators   FDA</a></p>
35.	Ryan Scharnhorst	Ryan Scharnhorst @ Pullman Fire. At wildfire base camps, such as those that happen under state mobilization where the firefighters live, who is responsible for providing the respirator? The home agency or the agency that hired them to fight the fire (WA DNR, WSP, USFS)?	<ul style="list-style-type: none"> <li>Workers who are under the scope of WAC 296-305 would not be under the scope of this rule.</li> <li>When multiple employers are involved, it might be one employer or the other that provides protection. Ultimately, the employee being provided the protection is what matters.</li> <li>We have a directive on this, available here: <a href="https://lni.wa.gov/dA/96edf1ea0f/DD115.pdf">https://lni.wa.gov/dA/96edf1ea0f/DD115.pdf</a></li> </ul>
36.	Alicia Every	The disposable N95 masks we have for covid are good for voluntary respirators? Or are we talking half-face respirators? Do we have to fit-test everyone who chooses to use them? Sorry if this was already answered.	<ul style="list-style-type: none"> <li>For the 35 µg/m<sup>3</sup> or AQI 101 threshold, N95 are acceptable for voluntary use.</li> <li>Fit-testing and medical evaluations are not required at that level. Once the smoke gets up to 555 µg/m<sup>3</sup> (beyond the AQI), more protective respirators are required.</li> </ul>
37.	Stephanie Sedlak	Has there been consideration given to re-publishing the 2021 Emergency Rule and then revisiting these changes as part of the permanent rule making process? Our work forces have been stressed by many factors and our employee's capacity to accept change is stretched from the last two years (emergency rules, COVID, etc). Holding the 2021 policy at least another season or two would help us focus on the upcoming changes to ambient heat, cranes, trenching, and other active rules in progress.	<ul style="list-style-type: none"> <li>Thank you for your comment, Stephanie. We will take this under advisement. We appreciate the challenging nature of the last few years with the pandemic.</li> </ul>
38.	Rodd Pemble	Can N95 masks be safely reused more than one day? What if the AQI is at or below the voluntary use threshold?	<ul style="list-style-type: none"> <li>This rule doesn't have any changes other than normal respirator requirements. Respirators need to be replaced when soiled, no longer in good working condition, or if they are damaged.</li> <li>If N95 are re-used, the employer must ensure that they are stored properly and safely, if there is time between when they are stored and when they are returned to the workers. The respirators need to</li> </ul>

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			be given to the same worker and not a different worker (no sharing of masks between workers).
39.	Anonymous	Buildings are exempt from this rule if they have filtered air. Building filtration will not capture PM2.5s as they are not HEPA, why are buildings exempted and why are cabin filters in vehicles acceptable if they are not HEPA?	<ul style="list-style-type: none"> <li>• There is no requirement for filtration for buildings in this rule. As long as doors and windows are kept closed, indoor worksites are outside of the scope of the draft emergency rule.</li> <li>• We recognize that filtration does help and are collecting more information on that.</li> <li>• Even filtration that isn't HEPA can reduce PM<sub>2.5</sub> exposures, but HEPA is the most effective way of preventing exposure. In regards to vehicle cabin filters, HEPA would be better way of filtering, but we understand most vehicles don't have HEPA , so other filtration is still allowable as part of the exemption.</li> </ul>
40.	Oleg Sassa w/ Holt Homes	Can LNI notify employers of these meetings when smoke is too high and when to provide respirators to employees? Since you guys mentioned all the other states. Last year Oregon OSHA donated bunch of respirators. Is LNI going to step up and do that as well?	<ul style="list-style-type: none"> <li>• There isn't a way for L&amp;I to track where every employer's workers are, and whether they're indoors or outdoors, etc. It wouldn't be feasible for L&amp;I to track and report that information.</li> <li>• Employers have the responsibility to make sure employees aren't exposed to wildfire smoke. Employers can go to <a href="http://enviroflash.info">enviroflash.info</a> where they can enter a particular location and set thresholds where they can get the forecast of upcoming days and current conditions.</li> <li>• L&amp;I is not currently planning to distribute respirators to employers, but we can discuss this further within the agency.</li> </ul>
41.	Jen Croft	Can we use the Wildfire Air Resource Advisor forecast products?	<ul style="list-style-type: none"> <li>• Jen, do you mind providing more information on this to us? You can email Chris Pyke, <a href="mailto:pykc235@lni.wa.gov">pykc235@lni.wa.gov</a>.</li> </ul>
42.	Travis Englehart	How would the Department determine feasibility w/ regard to implementing or not implementing exposure controls?	<ul style="list-style-type: none"> <li>• Feasibility is dependent on particular workplace. We can provide guidance to a particular employer, but there is no one-size-fits-all approach to feasibility.</li> <li>• L&amp;I has consultants to assist with making feasibility determinations about what can be done at particular worksite. Please see: <a href="https://lni.wa.gov/safety-health/preventing-injuries-illnesses/request-consultation/">https://lni.wa.gov/safety-health/preventing-injuries-illnesses/request-consultation/</a></li> </ul>

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43.	Anonymous	During one of the slides, it was mentioned that an alternative to respirators could be providing more breaks, how can the employer determine the number of breaks? What is descent? Also, does the employer have to ensure proper fitting of respirators when employees provide their own (before they becomes necessary)?	<ul style="list-style-type: none"> <li>• The reference to breaks wasn't an alternative to respirators. Breaks can be used as an administrative control to reduce the amount of smoke workers breathe but respirators may still need to be provided to workers.</li> <li>• The reference to breaks is in regards to feasible exposure controls, including administrative or engineering controls.</li> <li>• If an employer is out of the scope of the rule, then controls (including respirators) are not required.</li> <li>• For voluntary use, no fit test is required. The training included for wildfire smoke does include how to maximize fit of respirator.</li> </ul>
44.	Andre Zwanenburg	Last year in down town Seattle, we had AQI of 125 with wildfire around, but the measurements showed it was not caused by wildfire smoke but other particles.	<ul style="list-style-type: none"> <li>• Thank you for your comment, Andre.</li> </ul>
45.	Ryan Sharnhorst	Since a respirator is required, are the employees required to meet the standard and demonstrate they can properly wear the respirator (fit test, cleanly shaven where applicable, medical clearance, etc.)? If not, why is the mandate that a respirator has to be supplied and not some less expensive option if the employee won't benefit from the higher level of protection?	<ul style="list-style-type: none"> <li>• In 2022 emergency rule, there is no required use of N95 respirators. We will be talking about this further in the context of the permanent rulemaking.</li> <li>• The only required use is when exposure is above 555 µg/m<sup>3</sup>, which are extremely high situations above the AQI.</li> <li>• Loose fitting PAPR do not require fit test, and could be used for employers/employees who need to work at extremely high levels.</li> </ul>
46.	Lucia Luu	Stephani Strom: You can download PM 2.5 back to 1999 (for at least some locations) at this EPA site: <a href="https://www.epa.gov/outdoor-air-quality-data/download-daily-data">https://www.epa.gov/outdoor-air-quality-data/download-daily-data</a> . I hope that helps.	<ul style="list-style-type: none"> <li>• Thank you for your comment, Lucia.</li> </ul>
47.	Anonymous	How is it justified that it is legally compliant to be exposed to just under 5000 ug/m3 without a respirator, for respirable particulate not otherwise classified (essentially pm10, which includes pm2.5) in DOSH's Airborne Contaminant rule (Ch 841	<ul style="list-style-type: none"> <li>• We held a stakeholder meeting in January 2022 that included data about occupational and environmental hazards. That information is available here: <a href="https://lni.wa.gov/safety-health/safety-rules/rulemaking-stakeholder-information/wildfire-smoke#meetings-and-timeline">https://lni.wa.gov/safety-health/safety-rules/rulemaking-stakeholder-information/wildfire-smoke#meetings-and-timeline</a></li> </ul>

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		<p>or 842)...and DOSH has selected a community environmental guidance level which includes exposure to children and other non-workers, and DOSH has applied a much lower 'exposure threshold' for the workplace for PM 2.5?</p>	<ul style="list-style-type: none"> <li>• The Permissible Exposure Limit (PEL) under chapter 296-842, Airborne Contaminants, for respirable dust (Particulates not otherwise regulated, respirable fraction) is equivalent to 5000 µg/m<sup>3</sup> and includes particles greater than PM<sub>2.5</sub>. Therefore, it is not the appropriate measure of wildfire smoke exposure. Wildfire smoke particles (PM<sub>2.5</sub> or smaller) can go down into lungs and can cross over to blood stream.</li> <li>• In addition, the framework under chapter 296-841 WAC, Airborne Contaminants, requires employers evaluate and control exposures. By adopting a rule specific to this exposure, it will simplify the exposure evaluation process for employers and provide clarity on when they need to act and what they need to do. Given the nature of the hazard and the exposure, a specific rule is appropriate and consistent with DOSH's duty under WISHA.</li> <li>• Emerging evidence suggests PM<sub>2.5</sub> from wildfire smoke is more toxic than other sources PM<sub>2.5</sub>.</li> <li>• Because air quality often worsens abruptly in the event of wildfire, wildfire smoke can spread thousands of miles from its source, and winds can alter the dispersion pattern of smoke. Due to these distinct factors and exposures, the consideration of feasibility of controls for wildfire smoke is also likely different than for PM<sub>2.5</sub> than other sources.</li> <li>• WISHA requires DOSH set standards for hazardous exposures that ..."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...."</li> <li>• In setting the exposure level, DOSH is considering the hazard to employees, which can include minors and employees who fall into the sensitive group category, as well as feasible controls.</li> </ul>
48.	Anonymous	At what AQI do employers need to stop work and send people home?	<ul style="list-style-type: none"> <li>• There is not a stop work AQI in the 2022 draft emergency rule. However at 555 µg/m<sup>3</sup> (beyond the AQI), employers will need to require the use of more protective respirators.</li> </ul>

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49.	Ryan Mathews	At an APF of 25, a loose fitting PAPR would be expected at maximum performance to reduce exposure to 22.2 ug/m3. This level would exceed AQI 69 and 20.5 ug/m3 standards. This would suggest that a loose fitting PAPR is not sufficient respiratory protection and should not be a permitted option at this exposure scenario.	<ul style="list-style-type: none"> <li>• Thank you for comment, Ryan.</li> </ul>
50.	Stephen Neely	What is the expectation for large venues or sports stadiums with 1000+ employees for adhering to this ruling. In Seattle, air quality can fluctuate rather quickly and attempting to distribute N95 respirators to a large number of employees while having tens of thousands of fans in the building as well is very challenging. Additionally, deciding to stop a sporting event and evacuate a building in the middle of an event based off of higher than allowed AQI is extremely challenging. What is the recommendation or guidance on these large scale events?	<ul style="list-style-type: none"> <li>• There are several options for this scenario. A lot of this rule is built on planning ahead. It is best not to wait until something happens to figure out how to respond.</li> <li>• Forecasting for wildfire smoke has worked very well, and there is up to a five day forecast available, which can really help with planning. Those in charge of safety should keep an eye on wildfire smoke leading up to that event, and if the wildfire smoke could get above those levels.</li> <li>• One idea would be to distribute respirators ahead of time. Additionally, there is the 1-hour time exemption for exposures between 69- 300 AQI.</li> </ul>
51.	Travis Englehart	With regard to determining air quality: is there a distance considered close enough (10 mi, 50 mi, etc.) for relying on a regulatory monitor's data at a job site? If a CSHO monitors directly and identifies excessive exposure is there a violation, even though the closest regulatory monitor gives a lower PM 2.5 concentration?	<ul style="list-style-type: none"> <li>• We recognize that not all areas have an extensive monitoring network as we would like, and if you use the closest monitor to your location, that would be accepted. There is flexibility in choosing your monitor.</li> <li>• The main emphasis is that the employer has a wildfire smoke response plan, which would include how the employer will measure wildfire smoke. The response plan can be evaluated and changed as needed.</li> <li>• A Compliance Safety and Health Officer (CSHO) would look at how wildfire smoke exposure is being monitored, and if the employer applied the appropriate requirements based on that. The CSHO wouldn't come out with a direct reading instrument. They'd be</li> </ul>

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			<p>evaluating to see if whether the employer were appropriately monitoring themselves.</p>
<p>52.</p>	<p>John Ehrenreich WA Forest Protection Association</p>	<p>Been participating in stakeholder meetings since first started talking about this in Sept 2020 or longer. Raised several issues and seems like we are not getting to them. Rolling employer – had been involved in lot of CBA and doesn't take 1.5 years and not sure why we haven't don't that. Understand pressure L&amp;I is under due to COVID but we keep ratcheting down threshold from what was originally talked about when first brought up. Requested to not ratchet down until CBA has been done because we don't know how much damage is being done to employers, economy, etc. but at some point, have to do CBA and almost essentially ignoring APA process. Getting to point where people are going to have to go to court or look at legislature to get L&amp;I to do CBA. Object to lowering AQI rating of 151 down to 100. Wouldn't mind if there wasn't a cost associated, but there is. Need to find way for employer to determine a way to get them (employees) to wear mask and exercise their common sense and given the proper tools. What is employer's responsibility for employees working at home?</p>	<ul style="list-style-type: none"> <li>• Thank you for your comment.</li> <li>• Consistent with the mandate under WISHA, the department has looked at the best available evidence and determined that there are feasible measures to address the serious health hazards wildfire smoke presents for workers. The department is diligently working towards a permanent rule.</li> <li>• However, given the serious hazards and feasible measures, an emergency rule is necessary to address the health concern while we move forward in our work toward a permanent rule.</li> <li>• Under the Administrative Procedures Act, a specific cost-benefit analysis is not required for an emergency rule, but will be conducted in the coming months as part of the permanent rulemaking process.</li> <li>• While we don't have a cost-benefit analysis performed for the emergency rule, we do have information to indicate that voluntary use of respirators are a feasible control and are necessary and appropriate to protect workers from hazardous exposures to wildfire smoke.</li> <li>• We gave careful consideration to dropping the AQI thresholds from the 2021 rule, and provided scientific background at a previous stakeholder meeting in January 2022. This is a good resource to get background and information from studies, available here: <a href="https://lni.wa.gov/safety-health/safety-rules/rulemaking-stakeholder-information/ WildFire/Wildfire-Health-Threats.pdf">https://lni.wa.gov/safety-health/safety-rules/rulemaking-stakeholder-information/ WildFire/Wildfire-Health-Threats.pdf</a> and here: <a href="https://lni.wa.gov/safety-health/safety-rules/rulemaking-stakeholder-information/ WildFire/Trend-and-Effects-of-Wildfire-Smoke.pdf">https://lni.wa.gov/safety-health/safety-rules/rulemaking-stakeholder-information/ WildFire/Trend-and-Effects-of-Wildfire-Smoke.pdf</a></li> <li>• The home environment is one that employer does not have jurisdiction over. The employer is not required to assume responsibility unless the employee is going to another worksite.</li> </ul>

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53.	James Ross	What about equipment operators? They are in enclosed cabs. So are they exempt?	<ul style="list-style-type: none"> <li>• If equipment operators work in an enclosed cab, 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, then they would be exempt under WAC 296-62-08510(2)(b).</li> <li>• Please note that if the operator works outside the cab for more than 1 hour per 24 hours, or 15 minutes per 24 hours when the AQI is 301 or more, then they would not be exempt as noted in WAC 296-62-08510(2)(c) and (d).</li> </ul>
54.	Anonymous	I know health effects were discussed in the January meeting, but can you please share how many hospitalizations/emergency room visits there were as a direct result of occupational wildfire smoke exposure in Washington in previous years? Can you also share any trends in wildfire frequency?	<ul style="list-style-type: none"> <li>• This is an important question. There are estimates and information contained in some of the articles we have posted here: <a href="https://lni.wa.gov/safety-health/safety-rules/rulemaking-stakeholder-information/wildfire-smoke#additional-resources">https://lni.wa.gov/safety-health/safety-rules/rulemaking-stakeholder-information/wildfire-smoke#additional-resources</a></li> <li>• If you would like, we can follow up with an additional list of articles that discuss the occupational health burden of wildfire smoke. Please contact us if that would be something you are interested in.</li> <li>• Wildfire frequency is increasing in the West; some information is listed here:             <ul style="list-style-type: none"> <li>○ In Washington, there has been a four-fold increase, from 117,000 average annual acres burned (2000 to 2011), to 460,500 average acres burned (2012 to 2017). (Department of Natural Resources (<a href="#">DNR</a>) <a href="#">10-Year Strategic Plan</a>, p 32)</li> <li>○ Projections estimate that the annual area burned will quadruple in Washington’s forests by the 2040s, and will double in non-forested areas (Littell et al. “Forest Ecosystems, Disturbance and Climatic Change in Washington State, USA” Climate Change 2010, referenced in DNR 10-Year Strategic Plan, p 33.)</li> <li>○ Fire season on average in the U.S. is 78 days longer now than in 1970 (<a href="#">“The Rising Cost of Wildfire Operations”, USFS 2015</a>, p 2)</li> </ul> </li> </ul>

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55.	Stephanie Frost	Is L&I going to produce a new presentation for the 2022 emergency rule?	<ul style="list-style-type: none"> <li>• The wildfire smoke online training that was provided for the 2021 emergency rule will be updated for the 2022 wildfire smoke emergency rule.</li> <li>• The training materials are located at the following link, and the updated version will be posted here: <a href="https://lni.wa.gov/safety-health/safety-topics/topics/wildfire-smoke#training-and-resources">https://lni.wa.gov/safety-health/safety-topics/topics/wildfire-smoke#training-and-resources</a></li> </ul>
56.	Anonymous	What is being done by DOSH and the State of WA to put pressure on Oregon and California to take action in their states to stop wildfire pollutants from entering the state of WA and affecting WA workers? To get to the source of wildfire prevention activities, instead of going to PPE as a control to WA employees?	<ul style="list-style-type: none"> <li>• Wildfire smoke is a regional pollutant that affects workers and the public in all western states, as well as Canada and Mexico. Unfortunately, once wildfire smoke gets in the air, it easily crosses state and national borders. Wildfires occur in the state of Washington, as well as Oregon and California.</li> <li>• To truly solve the problem of wildfire smoke, a cross-disciplinary approach will be necessary. DOSH is collaborating with many partners including state OSHA plans, state and local health departments, clean air agencies, land management agencies, and research scientists to address the many impacts and causes of wildfire smoke.</li> <li>• However, as DOSH's jurisdiction is workplace safety and health, we are working towards a permanent rule to provide workers with a safe and healthy workplace using the tools that are available at this time.</li> </ul>
57.	Sarah Greer	Employees required to maintain the systems that are considered engineering controls may need to be changing prefilters, filters, and other maintenance activities to those systems during events in order to ensure the safety of people in those buildings. It can exceed the hour requirement. Has any consideration been made to accommodating the need when group housing, student housing, medical facilities etc. are impacted?	<ul style="list-style-type: none"> <li>• The 1-hour is an exemption to the rule, rather than a requirement.</li> <li>• The focus of this draft rule is on preparedness. If there is a potential for exposure, employees should have been trained, and N95 respirators should be made available.</li> </ul>

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58.	Theodore Smaistrla	I have a question in regards to training. Do employees who work in Oregon and Washington need to take each States training? Will Washington accept Oregon's training and Oregon accept Washington's training?	<ul style="list-style-type: none"> <li>• Washington, Oregon, and California have similar training requirements in their respective standards. While most of the information required to be included in the training is the same, workers who work in more than one state would need to be trained on the specifics of the individual state's training due to differences between the state requirements.</li> <li>• For example, the requirement to provide NIOSH-approved respirators starts at AQI 101 in the draft emergency rule in Washington and in Oregon's rule, and at AQI 151 in California.</li> <li>• To facilitate implementation, the employer could ensure their training specifies the requirements in each individual state.</li> <li>• Alternatively, the employer could create a wildfire smoke response plan that meets the most stringent requirements in the states in which they work and train on that material. For example, the employer could say that they will provide respirators for voluntary use at AQI 101 regardless of the state in which employees are working.</li> </ul>
59.	Anonymous	Does this rule apply only when there's a wildfire close by or is it intended to address geographic wildfire smoke impacts like when the fires in Oregon sent smoke to us? Also, how come the wildland fire crews don't have to follow these rules? If I am a contractor working in a DNR fire camp do I have to use a respirator when it hits the "trigger"?	<ul style="list-style-type: none"> <li>• This draft emergency rule applies to workplaces where the employer should reasonably anticipate that employees may be exposed to a NowCast PM<sub>2.5</sub> of 20.5 µg/m<sup>3</sup> (NowCast Air Quality Index 69) or more for wildfire smoke, regardless of the geographic area from which the wildfire smoke originates.</li> <li>• Wildland fire crews: Workers covered under the scope of WAC 296-305 are not included in this rule, since there are additional safety requirements for those directly fighting wildfires.</li> <li>• Contractors working in a Department of Natural Resources fire camp, who are not covered under the scope of WAC 296-305, would be required to comply with WAC 296-62-085 wildfire smoke rule, including the respiratory protection requirements.</li> </ul>
60.	Grant Nelson	Regarding WAC 296-62-08570 (2)(Exposure controls), employers are required to implement exposure controls *whenever feasible*...who determines if & when	<ul style="list-style-type: none"> <li>• The employer would be responsible for determining if exposure controls are feasible based on the specifics of their workplace, and the tasks they are doing.</li> </ul>

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		implementing exposure controls are “feasible”?	<ul style="list-style-type: none"> <li>• In the event of a compliance inspection, the DOSH inspector would evaluate the employer’s determination to see if the employer implemented feasible exposure controls.</li> <li>• There is not a one-size-fits-all approach to feasibility. This will vary based on the workplace.</li> <li>• For help with making a feasibility determination, DOSH consultation is available: <a href="https://lni.wa.gov/safety-health/preventing-injuries-illnesses/request-consultation/">https://lni.wa.gov/safety-health/preventing-injuries-illnesses/request-consultation/</a></li> </ul>
61.	Brandon Moran	If the recognized area AQI was at or over the threshold, but a company had a monitoring device that is calibrated and shows a lower level, would that be allowed to supersede general levels and mitigations for that project site? We have projects in remote environments that would not have available monitoring that reflects that immediate area.	<ul style="list-style-type: none"> <li>• The employer may choose to measure wildfire smoke exposure using any method listed under WAC 296-62-08530 including using a monitoring device in accordance with appendix A.</li> <li>• If the employer measures wildfire smoke at their workplace in accordance with appendix A, the employer could rely on those measurements for the purposes of this rule.</li> </ul>
62.	Anonymous	Why are you requiring respirators for the majority of healthy workers who don't need respirators at levels below concern for healthy workers? Why don't you just permit protections for workers who are concerned or who have additional personal risk factors? A majority of healthy workers do not need or want requirements to wear PPE when a hazard does not exist for them.	<ul style="list-style-type: none"> <li>• Wildfire smoke affects the health of all workers, including those who consider themselves healthy.</li> <li>• The 2022 draft emergency rule requires employers to provide respirators to employees at AQI 101 and above. Employees may choose whether to wear them or not.</li> <li>• Required use of N95 respirators, such as those required by Oregon and California's wildfire smoke regulations, is not required by Washington's 2022 emergency rule. However, DOSH will be exploring options for requiring use of N95 respirators during the permanent rulemaking. The 2022 draft wildfire smoke emergency rule does include a requirement for respirators that are more protective than N95's at 555 µg/m<sup>3</sup>, which is beyond the "hazardous for everyone" category of the AQI.</li> </ul>

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63.	Anonymous Attendee	The reasonable accommodation process is used to keep sensitive populations safe in the workplace. A duplicate effort is not necessary and places undue burden on the employer. Setting the AQI at 69 creates that duplicate effort.	<ul style="list-style-type: none"> <li>• The requirements at AQI 69 include providing training to workers on the hazards of wildfire smoke, and monitoring the wildfire smoke levels to know when to implement further protections.</li> <li>• Wildfire smoke impacts the health of all workers, including those who are not included in the definition of sensitive groups.</li> <li>• Workers may use the reasonable accommodation process if they choose. However, the requirements of this rule are designed to provide a safe and healthful working environment for every person working in the state of Washington.</li> <li>• WISHA requires DOSH set standards for hazardous exposures that ...”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....”</li> <li>• In setting the exposure level, DOSH is considering the hazard to employees, which can include minors and employees who fall into the sensitive group category, as well as feasible controls.</li> </ul>
64.	Coreen Anderson	I'm sorry if someone already asked about this. I had tech difficulties and have missed most of this. My question is for outdoor ag workers. How do we manage this as safety managers across a large farm? Sounds like there is a mask mandate for wildfire smoke at certain levels (medical questionnaires & fit tests)?	<ul style="list-style-type: none"> <li>• The 2022 draft emergency rule requires that employers provide NIOSH-approved respirators for any worker covered by the scope of this chapter when the AQI is 101 or more.</li> <li>• Employees can choose if they would like to use the provided respirators. At 555 µg/m<sup>3</sup>, which is beyond the "hazardous for everyone" category of the AQI, more protective respirators are required such as loose-fitting PAPR, full-facepiece respirator, or full-facepiece PAPR.</li> <li>• Full-facepiece respirators, full-facepiece PAPRs require fit test, medical evaluation, and employees must be clean shaven. Loose-fitting PAPR do not require fit tests, medical evaluations, or for employees to be clean shaven.</li> <li>•</li> </ul>
65.	Anonymous	With COVID we are directed to open those outdoor vents.	<ul style="list-style-type: none"> <li>• Thank you for your comment.</li> </ul>

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66.	Ryan Mathews	Yakima had six days last summer where we exceeded 555 ug/m3.	<ul style="list-style-type: none"> <li>• Rulemaking staff reviewed Environmental Protection Agency historical data for 2021 in Yakima, but did not identify in EPA's data any daily PM<sub>2.5</sub> excursions that exceeded 555 <math>\mu\text{g}/\text{m}^3</math>.</li> <li>• If you would like to discuss your concerns/related data further, we encourage you to please directly contact DOSH wildfire smoke rulemaking staff.</li> </ul>
67.	Anonymous	If you are saying the stakeholders wanted you to look at other states, what other states besides California and Oregon, have you looked at? I hear no others mentioned here today.	<ul style="list-style-type: none"> <li>• We have been working primarily with Oregon and California, as other states do not have workplace safety rules for wildfire smoke.</li> </ul>
68.	Dominique Damian	Instead of making another emergency rule, why hasn't DOSH spent more time and resources in education and outreach to try to mitigate these hazards first? There is so much confusion and too many unanswered questions surrounding this topic. It seems transparent research and visible outreach would be more effective.	<ul style="list-style-type: none"> <li>• DOSH is working diligently on its education and outreach approaches, in addition to working towards a permanent rule for wildfire smoke</li> <li>• Consistent with the mandate under WISHA, the department has looked at the best available evidence and determined that there are feasible measures to address the serious health hazards wildfire smoke presents for workers. Given the serious hazards and feasible measures, an emergency rule is necessary to address the health concern while we move forward in our work toward a permanent rule.</li> </ul>
69.	Tony Klutz	This question may have been asked earlier and I apologize if I missed it. Utility workers especially on the electric side are required to wear FR clothing. I have researched and have not found any N95 respirators that meet the 8 cal/cm2 rating of the FR clothing that most electric utility workers wear. Could you please provide some guidance on this topic?	<ul style="list-style-type: none"> <li>• There is an exemption in the draft wildfire smoke emergency rule for emergency response personnel from the exposure controls requirements in WAC 296-62-08570, but currently no exemption from the respiratory protection requirements.</li> <li>• We are aware of at least one flame-resistant N95 respirator that is currently available. We are also working with our high-voltage technical team to identify other options available for this type of work. Please reach out to us if you would like assistance with options for this type of work.</li> <li>• If the employer is concerned that there is no PPE or other controls that would meet the needs of protecting employees from both arc flash and wildfire smoke, they are encouraged to submit a variance in advance of performing this type of work. Instructions on submitting a</li> </ul>

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			variance are here: <a href="https://lni.wa.gov/safety-health/safety-rules/enforcement-policies/rule-variances-variance-notices">https://lni.wa.gov/safety-health/safety-rules/enforcement-policies/rule-variances-variance-notices</a>
70.	Ian Payne	What options exist for employees who must work outdoors during days with AQI >555, but whose job duties make it impossible or unsafe to wear more protective respirators for other reasons (e.g. law enforcement officers)?	<ul style="list-style-type: none"> <li>• We will be providing additional guidance on how to deal with situations where the use of respiratory protection may pose a hazard.</li> <li>• You are welcome to reach out to us with any particular situations, and we are happy to discuss.</li> <li>• Generally, if there are concerns with the ability to comply with a DOSH standard due to competing safety concerns, employers may submit a variance request: <a href="https://lni.wa.gov/safety-health/safety-rules/enforcement-policies/rule-variances-variance-notices">https://lni.wa.gov/safety-health/safety-rules/enforcement-policies/rule-variances-variance-notices</a></li> </ul>
71.	Nicolas Garcia	Given the answer to a previous question indicating that an employer may determine when implementation of exposure controls are feasible, does the provided emergency exemptions cover the work a utility determines is necessary to continue or restore the safe, reliable and environmentally sound operation of electric utility systems? Such work could include critical/preemptive maintenance and vegetation management, or equipment replacement.	<ul style="list-style-type: none"> <li>• This exemption is for emergency maintenance ("emergencies include utilities, communications, and medical operations, when such operations are directly aiding firefighting or emergency response").</li> <li>• Preventive maintenance is not covered by the exemption. For example, work that can be deferred without compromising the functioning of the power grid should be deferred until after the air quality improves (administrative control).</li> <li>• If this is not feasible, other potential controls include minimizing employee time out of doors and/or providing additional rest periods</li> <li>• Employers are only obligated to perform interventions that are feasible.</li> </ul>
72.	Alicia Every	@John Eherenreich, how are these college-educated employees supposed to make their own choices when their employer doesn't give them access to air quality monitoring equipment? You want employees to just feel with their lungs how smokey it is and then decide for themselves?	<ul style="list-style-type: none"> <li>• Thank you for your comment.</li> </ul>

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73.	Anonymous	PM2.5 impacts on the lungs, heart, respiratory system are the same regardless if they are from wildfire, dust, industry...why create a rule with such a specific reference to the source when the damage to the employee is the same? Instead of a cost analysis, has there been any attempt to determine the human costs? How much is a life impacted by PM2.5?	<ul style="list-style-type: none"> <li>• The hazard from wildfire smoke is especially prominent and has risen to a level warranting emergency rulemaking</li> <li>• Emerging evidence suggests PM<sub>2.5</sub> from wildfire smoke is more toxic than other sources of PM<sub>2.5</sub>.</li> <li>• Air quality often worsens abruptly in the event of wildfire, wildfire smoke can spread thousands of miles from its source, and winds can alter the dispersion pattern of smoke. Due to these distinct factors and exposures, the consideration of feasibility of controls for wildfire smoke is also likely different than PM<sub>2.5</sub> than other sources.</li> <li>• Under WISHA, DOSH must determine that the rule will address exposures that can cause material impairment of health and that control measures are feasible.</li> <li>• As part of the permanent rulemaking process, the agency must also determine both the cost of compliance and the benefits, which could include financial and non-financial impacts from injuries and illness avoided.</li> <li>• Detailed information about DOSH's cost and benefits considerations will be shared in advance of promulgating a final rule as part of the ongoing wildfire smoke rulemaking process.</li> </ul>
74.	Anonymous	is LNI going to show up with a direct reading instrument and cite the employer if they are using these other monitoring sites?	<ul style="list-style-type: none"> <li>• DOSH compliance inspectors will evaluate the methods the employer is using to evaluate wildfire smoke. If the employer is properly utilizing exposure monitoring, as required by WAC 296-62-08530, then they will be considered compliant.</li> </ul>
75.	James Ross	Who are the stakeholders	<ul style="list-style-type: none"> <li>• We have been asked by the Associated General Contractors, the United Farm Workers, Community 2 Community, and others to build consistency across the three states with heat stress and wildfire smoke rules.</li> <li>• Many workers and employers operate across these states, and would prefer consistency for understanding of rule requirements.</li> </ul>

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76.	Anonymous	<p>I do not understand why KN95 masks cannot be used in place of N95s since you are handing out N95s willy-nilly without any proper fitting. Based on this, the KN95 would be just as useful as the N95. We do quantitative fit testing on N95s since they are required by some programs. They are part of our respiratory protection program. We have not found any KN95s that will pass quantitative fit testing, but without proper fitting of the N95 is not the KN95 just as good? If not why not? Remember, as with 1/2 and full face respirators one size does not fit all.</p>	<ul style="list-style-type: none"> <li>• We concur that providing employees with fit-testing improves the protection offered by N95 respirators.</li> <li>• L&amp;I DOSH will be leading further discussions with stakeholders about the role of fit-testing respirators as part of the ongoing wildfire smoke rulemaking process.</li> <li>• However, KN95 are not certified by NIOSH, and as such, they cannot be guaranteed to provide protection to the wearer</li> <li>• There is high variability among the quality of KN95: NIOSH found that about 60% of KN95 respirators they evaluated in 2020 and 2021 "did not meet the requirements that they intended to meet (<a href="#">International Assessment Results   NPPTL   NIOSH   CDC</a>). This is separate from concerns about the fit of KN95.</li> <li>• FDA also revoked their emergency use authorization for non-NIOSH-approved disposable FFRs nearly a year ago: <a href="#">Revoked EUAs for Non-NIOSH-Approved Disposable Filtering Facepiece Respirators   FDA</a></li> </ul>
77.	Anonymous	<p>We have a couple of buildings that run 100% outside air. No outside air dampers. We have bag filters that will filter maybe 70%. There is no real way to add engineering controls to these systems, and supplied building HEPAS only can clean small areas. When it is really smoky outside, it is really smoky in these buildings. These types of buildings should not be exempt. We do our own monitoring to confirm elevated readings and have found elevated AQIs in the past in these buildings. Outside you could not see more than 50 to 150 feet. Do you think you can come up with a suggested AQI inside as to when a building should be closed? Perhaps when a mask is suggested would be time to close a building, or some other value.</p>	<ul style="list-style-type: none"> <li>• In the near-term, we would advise you to look into public health guidance for when a building should be closed. The 2022 draft wildfire smoke emergency rule does not currently address this question.</li> <li>• We will take your question into consideration as we move forward.</li> </ul>

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78.	Tony K	I realize the L&I Wildfire rule and the L&I Heat Stress rule are two entirely separate regulations. Is L&I doing any consideration of how these rules interact because they do at least in a practical sense? Both temperature and air quality do stress the employee. Is this being considered? Thank you.	<ul style="list-style-type: none"> <li>• Yes, the rulemaking teams for both projects are considering that employers and employees may be experiencing both heat and wildfire simultaneously.</li> <li>• We will take your comment into consideration as we move forward.</li> </ul>
79.	Shawn Ringo 03:34 PM	Shawn Ringo again with WSU, I feel you may have missed my point earlier. Yes safety always requires good communication and reinforcement, BUT on the east side of the state with the smoke we frequently experience here, our people won't perceive 35 ug/m3 air as bad per se, and it could weaken their perception of needing to voluntarily wear an N95 (per our communication as safety professionals) when the air gets worse and more significantly warrants voluntary respirator use for everyone. In that regard, the old 55.5 ug/m3 standard was better.	<ul style="list-style-type: none"> <li>• Thank you for your comment.</li> <li>• We concur that the hazard from wildfire smoke is not always immediately detectable by employees, and will give your comment consideration with respect to the wildfire smoke hazard messaging information we develop and share.</li> </ul>
80.	Nicolas Garcia	My question (posted at 2:57pm) is in the context of an electric utility responding to the risk or occurrence of a wildfire.	<ul style="list-style-type: none"> <li>• Thank you for this clarification.</li> </ul>
81.	Anonymous Attendee	I would encourage you to consider allowing the use of KN95s this year. The state has distributed 1000s of KN95s under the premise that they could be used for wildfire smoke. As there has been no economic impact study yet, the cost of replacing the masks that have already been distributed could be prohibitive for many employers.	<ul style="list-style-type: none"> <li>• Thank you for your comment.</li> <li>• KN95 are not certified by NIOSH, and as such, they cannot be guaranteed to provide protection to the wearer</li> <li>• KN95 have not been allowed for the purposes of respiratory protection in an occupational setting prior to the pandemic</li> <li>• There is high variability among the quality of KN95: NIOSH found that about 60% of KN95 respirators they evaluated in 2020 and 2021 "did not meet the requirements that they intended to meet"</li> </ul>

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		Currently a pack of 20 respirators can cost up to \$40 if not more. An employer with 100s of employees may find the cost too great and shut down work, which could mean lost income for workers as well as revenue for businesses, which could seriously hurt the state economy as well. If the state is not going to distribute replacement N95s for the KN95s, you should consider this in your 2022 emergency rule.	<p>(<a href="#">International Assessment Results</a>   <a href="#">NPPTL</a>   <a href="#">NIOSH</a>   <a href="#">CDC</a>). This is separate from concerns about the fit of KN95.</p> <ul style="list-style-type: none"> <li>FDA also revoked their emergency use authorization for non-NIOSH-approved disposable FFRs nearly a year ago: <a href="#">Revoked EUAs for Non-NIOSH-Approved Disposable Filtering Facepiece Respirators</a>   <a href="#">FDA</a></li> </ul>
82.	John Ehrenreich	In remote workplaces where there is no direct supervision to a lone employee, there is no feasible way for an employer to determine worksite air quality. Is it possible for an employer to delegate the requirement to monitor the air to the remote independently working employee where 1) the employee has been given the required training, and 2) the employee has been given N95s?	<ul style="list-style-type: none"> <li>For remote workplaces with employees working alone, there are multiple options, and the employer could use multiple methods to ensure employees get the proper protection from wildfire smoke.</li> <li>The employer can use wildfire smoke forecasts to assist with pre-planning, utilize the two-way communication system, and the employer could chose to provide the employee the training in WAC 296-62-08550(2) and (3), including training on operating the provided monitoring equipment and interpreting the results, and providing the necessary protective equipment (such as N95s).</li> <li>While the employer can train workers to conduct air monitoring in a remote location, the employer cannot delegate their responsibility under RCW 49.17 to provide a safe and healthy workplace related to wildfire smoke, or any other workplace hazard covered under RCW 49.17.</li> </ul>
83.	August Wheelock	FGI guidelines specific to some occupancies do require specific MERV filtration levels that are HEPA.	<ul style="list-style-type: none"> <li>Thank you for your comment.</li> </ul>
84.	Anonymous Attendee	Specifically for agriculture, as a safety manager, please advise how we handle outdoor workers if the numbers get high enough that we have a mandatory mask	<ul style="list-style-type: none"> <li>Preparing for these extreme wildfire smoke events requires employers to create a wildfire smoke response plan as required by WAC 296-62-08540(3). Employers are encouraged to use this</li> </ul>

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		mandate. How do you suggest we enforce farm labor to wear these masks? For example, during harvest, when there is no other place to go, and stopping because of smoke is not economically feasible. How do you suggest we manage this? Along with fit test/resp. med questionnaires?	<p>plan to determine how they intend to respond to these events, including provision of respirators, medical evaluations, and fit testing as needed.</p> <ul style="list-style-type: none"> <li>• There is no requirement for employers to wear respiratory protection until the 555 <math>\mu\text{g}/\text{m}^3</math> threshold is met, which is beyond the AQI. This level of <math>\text{PM}_{2.5}</math> would constitute a health emergency for workers. No worker should be outside without respiratory protection at that level.</li> <li>• California has this provision in their permanent rule.</li> <li>• Please note that loose-fitting PAPRs do not require fit-tests, medical evaluations, or for employees to be clean shaven.</li> </ul>
85.	Stephanie Sedlack	I wanted to support Tony Klutz's comment related to the Heat Stress Rule and the Wildfire Smoke Rule. While they are different hazards, they have similar requirements. Monitoring of an environmental situation, action requirements at specific thresholds, training, etc... Where you can find places to align these rules that will run during similar time frames would be helpful for employers.	<ul style="list-style-type: none"> <li>• Thank you for your comment.</li> </ul>
86.	John Ehrenreich	If the responsibility to do the monitoring cannot be delegated from the employer to the remote independently working employee, then how does how the employer monitor the worksite air quality when there is no technically feasible way to that?	<ul style="list-style-type: none"> <li>• The draft rule does not specify who should be doing the monitoring.</li> <li>• The responsibility of the employer under RCW 49.17 may not be delegated, but employers may train employees to conduct remote monitoring. If the employee is properly trained to conduct remote monitoring, they may do so on behalf of their employer.</li> </ul>
87.	Stephen Neely	During a stretch of several days of poor air quality, with 1000+ temporary seasonal part time employees, working in an outdoor environment. Most of these employees are going to rotate working days during this 5	<ul style="list-style-type: none"> <li>• Thank you for your comment.</li> <li>• The DOSH consultation program would be happy to consult on your efforts to obtain N95 respirators in advance of the 2022 wildfire smoke season, and protect your employees from the hazard posed by wildfire smoke exposure.</li> </ul>

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		<p>day stretch. This ruling requires me to have several thousand N95 respirators on hand at any given time with little to no ability to forecast past a few days. Current supply chain issues could take me several weeks to resupply those several thousand n95 respirators. By requiring N95 respirators only, this is extremely challenging and has a high cost impact on an employer when that employer is dealing with a thousand part time employees who are working in an outdoor environment.</p>	<ul style="list-style-type: none"> <li>• There are several reasons why N95 are required in the draft emergency rule (rather than KN95).</li> <li>• KN95 are not certified by NIOSH, and as such, they cannot be guaranteed to provide protection to the wearer</li> <li>• KN95 have not been allowed for the purposes of respiratory protection in an occupational setting prior to the pandemic</li> <li>• There is high variability among the quality of KN95: NIOSH found that about 60% of KN95 respirators they evaluated in 2020 and 2021 "did not meet the requirements that they intended to meet (<a href="#">International Assessment Results   NPPTL   NIOSH   CDC</a>). This is separate from concerns about the fit of KN95.</li> </ul>
88.	Anonymous Attendee	<p>To confirm, at AQI 101, filtering facepiece respirators must be provided but no medical exam/review, no fit test, can have beards, etc. they just have to be provided to them. Use is voluntary.</p>	<ul style="list-style-type: none"> <li>• This is correct.</li> </ul>
89.	Coreen Anderson	<p>Please advise how to manage this emergency rule without forgetting the actual reality, in agriculture. During harvest we are over 800+ employees outdoors, not able to go indoors. I am not understanding how I get respirator medical questionnaires, accurate fit tests, and enforce everyone wearing them.</p>	<ul style="list-style-type: none"> <li>• Preparing for these extreme wildfire smoke events requires employers to create a wildfire smoke response plan as required by WAC 296-62-08540(3). Employers are encouraged to use this plan to determine how they intend to respond to these events, including provision of respirators, medical evaluations, and fit testing as needed.</li> <li>• It is highly unlikely that the AQI will reach 555 <math>\mu\text{g}/\text{m}^3</math>, but if it does, it is essential that employees are protected from the hazard of wildfire smoke through the use of respiratory protection.</li> <li>• The DOSH consultation program would be happy to assist you with completing the steps needed to implement a full respirator program.</li> <li>• Assistance from DOSH Consultation may be especially useful if you anticipate continuing to have employees work outside if the <math>\text{PM}_{2.5}</math> levels reach 555 <math>\mu\text{g}/\text{m}^3</math> during the period the 2022 wildfire smoke emergency rule is in effect.</li> </ul>

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			<ul style="list-style-type: none"> <li>Loose-fitting PAPRs do not require medical evaluations and fit testing.</li> </ul>
90.	Coreen Anderson	Also, where I am to purchase all these respirators? Should we start buying now? without seeing the future?	<ul style="list-style-type: none"> <li>Respirators may be purchased from the employer's vendor of choice, as long as they meet the requirements in the rule.</li> <li>L&amp;I DOSH continues to anticipate that the emergency rule in effect for the 2022 wildfire smoke season will include elements that require employers provide respirators to employees when the AQI reaches 101.</li> <li>We would advise that employers take preparatory actions to protect employees from workplace safety and health hazards, including wildfire smoke, regardless of the existence of a DOSH rule.</li> </ul>