June 9, 2021

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Patrick Allen, Director
Oregon Health Authority
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RE: OREGON OSHA DRAFT EXCESSIVE HEAT AND WILDFIRE SMOKE RULES

Dear Director Allen and Administrator Wood,

On behalf of our broad coalition advocating for public health, worker and climate protections regarding the Excessive Heat & Wildfire Smoke rulemakings, we thank you for all your work so far in developing worker protections from heat-related illness and unhealthy levels of wildfire smoke. Climate change is already worsening public health crises in Oregon and frontline workers are amongst the first to suffer the impacts as the number of hot days and wildfires exponentially increase.¹ Black, Indigenous and people of color (BIPOC) and immigrant workers who are more likely to work dangerous, low-wage, and non-union jobs, are disproportionately impacted.

¹ The number of hot days considered unsafe due to excessive heat are expected to double by 2050. https://www.washington.edu/news/2020/04/28/agricultural-pickers-in-us-to-see-unsafely-hot-workdays-double-by-2050/
We urge you to keep these worsening climate impacts and inequities front of mind as you draft and finalize language for these rules. Simply put, any proposed standards must prioritize the health and well-being of Oregon’s workers in climate-impacted conditions as opposed to the economic bottom lines or conveniences of businesses. In addition, these proposed standards must be based on the best science and health research available.

As Oregon OSHA and OHA continue to develop these rules, we urge you to incorporate the science and health-based thresholds that, at a minimum, are essential in order to protect as many vulnerable workers as possible. Our suggested thresholds and policies have been carefully vetted by a diverse stakeholder group of health and climate experts as well as frontline workers with lived experience working in hot and smoky conditions.

I. The current AQI proposals in the wildfire smoke rule must fully protect health-sensitive populations.

According to the American Lung Association, a whopping 21.5% of America’s workforce already suffer asthma impacts at work, and 1 in 6 adult-onset asthma cases are caused by occupational exposures such as wildfire smoke. And when AQI (air quality index) values are above 101, air quality is unhealthy for sensitive populations, ranging from those with asthma, respiratory illness, heart or lung disease, or pregnancy. We are pleased that the current iteration of the wildfire smoke rule includes an encompassing definition of “sensitive group.” Air quality is unhealthy for everyone at an AQI of 151 or above.

Older adults are also particularly sensitive, and our workforce is aging: the number of Americans over age 55 in the labor force is projected to increase from 35.7 million in 2016 to 42.1 million in 2026. By 2026, aging workers will make up nearly a quarter of the labor force.

A. Employers should increase ventilation and monitoring AQI in the workplace as a first step to reduce exposure. If increasing ventilation is not possible, all employers should provide NIOSH-approved N95 respirators for their employees/workers at 101 AQI, and portable air quality sensors should be provided for traveling employees.

During the worker listening sessions, it was mentioned multiple times that some employers were not providing N95 respirators to their workers during the September 2020 wildfires. We are supportive and grateful of language in the current draft rules to require employer-provided, NIOSH-approved N95 respirators when the AQI of a workplace reaches above 101. However, Oregon OSHA should mandate respirator use at that threshold for all employees/workers including emergency essential workers, as opposed to having employers encourage the use.

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5 https://www.aging.senate.gov/imo/media/doc/Aging%20Workforce%20Report%20FINAL.pdf.
6 Draft Wildfire Smoke Rule (May 26, 2021) at p.3.
7 Draft Wildfire Smoke Rule (May 26, 2021) at p.1.
This agency should also require employers to train employees on proper usage, medical evaluation, and fit testing of respirators and should also require that employers provide respirators for voluntary use when workplace air quality is in the second tier of the AQI (i.e. between 51 and 100). Engineering controls to reduce PM 2.5 exposure to an AQI of below 101 are needed, and the draft rule does require this where feasible, but both engineering controls and the option to wear a respirator, especially for those in workplaces with open doors and windows, are necessary to adequately protect health-sensitive people with other comorbidities (i.e. asthma, pregnancy) who need the air to be at an AQI below 100.

Lastly, because AQI is subject to change based on wind speed and direction, workers working in remote locations where weather data cannot be easily accessed, should be provided with portable air sensors.

B. Requirements to train and relocate employees/workers to an area lower than 101 AQI are appropriate; Employer communications about training at 51 AQI is appropriate.

We are supportive of the requirement of annual supervisor and employee training, provided that new employees and supervisors get trained and fit-tested on a rolling basis as they start work, and that employers document how the PM 2.5 concentration in ambient air is monitored in a 24 hour period. We are also supportive of the requirement for employers to simply notify employees/workers of training opportunities and wildfire hazards in a language they understand, when AQI reaches 51. These training opportunities must take place during paid time and attendance must be mandatory. These trainings must be effective, interactive, and must offer opportunities to ask questions and practice the information offered before the training and review are completed. Trainings must involve multiple modes for different types of learners and must include versions for low-literacy and those with little fluency in English. Trainings must also emphasize the prohibition against retaliation for workers who raise safety concerns, similar to the language in the Covid-19 rule.

However, even if wildland firefighters are to be exempt from respirator requirements, OSHA should still at the very least ensure that English-as-a-second language firefighters obtain health-relevant information and training in a language that they understand. Similarly, it is appropriate and more health-protective to have an employer change a work schedule or relocate an employee/worker to an area with an AQI lower than 101 if exposure cannot be controlled.

II. Labor housing, emergency workers, and essential workers in indoor spaces with frequently opening windows/doors must not be excluded from wildfire smoke protections.

We remain concerned over the number of exemptions included in version 3 of your draft rules. Those living in labor housing do not have the luxury of “leaving” their work sites regardless of

8 Draft Wildfire Smoke Rule (May 26, 2021) at p.2. Currently, fit-tests are not being required as part of formal training. Ibid. at p. 4.
9 Draft Wildfire Smoke Rule (May 26, 2021) at p.3 (AQI thresholds changed from 101 to 51 for communications about training and wildfire risk, from the previous draft iteration).
10 Draft Wildfire Smoke Rule (May 26, 2021) at p.3.
whether they are performing work duties. Farmworker housing in the middle of or adjacent to the fields leaves little or no space between work sites and housing. We heard stories at your listening session of farmworkers inhaling smoke 24 hours a day due to lack of PPE, and of an inability to get away from their work site. If agricultural labor housing is specifically excluded from the smoke rule, parallel protections against heat stress and wildfire smoke must be included in rulemaking currently underway regarding agricultural labor housing. We urge you to prioritize these rules to ensure that farmworkers can get the relief they need from smoke, during their ‘off-work’ hours.

We also heard from bus drivers, warehouse workers, forest workers, and other essential workers during your worker listening sessions that smoke exposure and the resulting respiratory distress remains a problem. Specifically, during last year’s devastating wildfires, bus drivers and warehouse workers working in buildings with negative air pressure did not have the required respiratory protection, and their employers did not provide PPE, nor allow them time off to remove themselves from the hazardous work environments. Simply put, relying on individual managers to choose to protect their workforce is inadequate, and there is no reason to believe a utility worker or a paramedic (currently exempt in the draft rules) who must be outside, would not suffer these same impacts without across-the-board protections.

As per Oregon’s Covid-19 guidelines, spaces with 50% or more of air cycled in from outdoor air are outdoor spaces. OSHA should use the same definition and explicitly define workplaces that must frequently open and close doors (i.e. a retail shop; drive through) as “outdoor,” even if there is a building mechanical ventilation system, and apply the NIOSH-approved, employer provided respirator requirement to such instances.

III. Oregon OSHA’s excessive heat rules must adequately consider unacclimatized workers, health-sensitive populations, and humidity impacting certain regions.

Workers/employees are at risk for excessive heat exposure and heat strain when the heat load is greater than the worker’s ability to dissipate heat. Physical activity, environmental conditions, and clothing all contribute to the heat load. A 2019 study by a group of occupational health researchers found that a gradual increase in summer temperatures led to an increase in heat-related deaths among construction workers in the United States from 1992 to 2016. Over that 24-year period, 783 workers died from heat related causes. Construction workers—just 6% of the U.S. workforce—accounted for 36% of the heat-related deaths. And between 2005 and 2012, 28 farm workers died from heat-related illnesses in California alone-- also likely underreported.

13 Outdoor” means any open-air space including any space which may have a temporary or fixed cover (e.g. awning or roof) and at least fifty percent of the square footage of its sides open for airflow such that open sides are not adjacent to each other.” https://sharedsystems.dhsoha.state.or.us/DHSForms/Served/le2351b.pdf (at p. 1).
With strong rules, Oregon OSHA can help prevent such deaths and injuries from happening at the workplace. Basing measures and thresholds on health-based recommendations is essential for the protection of workers, and this agency must use health-conservative standards to ensure that the most health vulnerable and less physically fit employees still reap the benefits of health protections. For example, Oreganians are not as acclimated to high heat as people in other areas with heat standards, such as California.\textsuperscript{16} What constitutes “high heat procedures” currently remains undefined and unclear.\textsuperscript{17} Table 1 of Oregon OSHA’s draft rules for excessive heat sets temperature threshold ranges for very heavy work at 70-77°F, and for light work for unacclimatized workers at 86°F.\textsuperscript{18} While on the right track, this ambient terminal temperature threshold for light work could be set to 80°F for unacclimatized workers. Morris et al. 2019 finds that cases of occupational heat-related illness begin to rise with a heat index of 80°F.\textsuperscript{19}

Local climate data must be considered to determine appropriate measures and thresholds. This must also be weighed with the availability and ease of obtaining current and future predicted forecasts. We also respectfully request this agency revert back to the language in version 1 of the draft rules that defines “heat wave” as “at least ten degrees Fahrenheit higher than the average high daily temperature in the preceding five days” as this definition better accounts for the specific weather and circumstances Oregon faces.\textsuperscript{20}

Further, we request that Oregon OSHA consider the impact of humidity (ie, a heat index) in addition to its temperature thresholds to account for some parts of the state that experience higher humidity during the summer season. This specifically was mentioned during the listening session(s) by hazardous waste and city workers suffering humidity impacts in the Metro region, while wearing PPE.

As such, OSHA’s final rules on excessive heat rule should specify at a minimum:

1. Workers/employees must have access to fresh, cool and cold (36-66°F),\textsuperscript{21} and uncontaminated drinking water immediately available from their work site, and they must be encouraged to hydrate throughout the day. This water must be provided by employers. It is recommended by health experts that if someone is in heat for less than 2 hours and involved in moderate work activities, they should be encouraged to drink 1

\begin{itemize}
\item[\textsuperscript{16}] California’s excessive heat rule sets mandatory high heat procedures at 95 °F.
\item[\textsuperscript{17}] Draft Excessive Heat Rule (May 26, 2021) at p.4.
\item[\textsuperscript{18}] Draft Excessive Heat Rule (May 26, 2021) at p.1.
\item[\textsuperscript{19}] “When WBGT is unavailable, a Heat Index alert threshold of approximately 80 °F (26.7 °C) could identify potentially hazardous workplace environmental heat.” Accord Moris et. al. (2019), Actual and simulated weather data to evaluate wet bulb globe temperature and heat index as alerts for occupational heat-related illness, available at https://pubmed.ncbi.nlm.nih.gov/30285564/.
\item[\textsuperscript{20}] Draft Excessive Heat Rule (April 8, 2021) at p.2; See also redlined rules submitted as Appendices A and B.
\item[\textsuperscript{21}] Draft Excessive Heat Rule (May 26, 2021) at p.2.
\end{itemize}
cup (8 oz.) of water every 15-20 minutes per NIOSH recommendations.\textsuperscript{22} For prolonged exposure and high activity levels, workers should be provided electrolyte-containing beverages with low sugar or no sugar.\textsuperscript{23}

2. Workers/employees must have shade \textit{within 400 feet} of where they are performing their work. When Temperatures reach 95 F, shade is not enough without additional interventions to allow employees to cool off successfully such as slush ice, cooling gel bandanas, and/or cooling mist. Alternatively, employers can promptly bring workers into cooling areas with air conditioners during their rest breaks or preventative cool-down breaks. Shade must be immediately available to the worksites so employees can obtain relief as needed without loss of work time or further exertion.\textsuperscript{24}

3. Portable or permanent bathroom structures must be placed \textit{also within 400 feet} walking distance from the work area to encourage employees to drink water and utilize bathrooms as necessary. Placing shade, water, and bathrooms too far from a workstation could discourage workers from taking necessary time to utilize the cool down station(s), hydrate, and take bathroom breaks.

4. Workers/employees must be allowed and encouraged to take regular and preventative cool-down breaks in the shade that are \textit{15 minutes long} in order to prevent overheating. These breaks should be a part of the compensated day and these breaks must be required upon a worker’s report or exhibition of heat-stress symptoms.\textsuperscript{25} It is important to stress that cumulative minutes for the cool down breaks can be longer than regular break times required under the current law as an incentive to encourage these necessary breaks without a loss of wages.

5. We also strongly encourage Oregon OSHA to require employers to develop and implement a \textbf{Heat Stress Management Program}. This program should be provided to employees prior to the start of heat season (May 1st), and both employees, monitors and supervisors should be trained. These trainings should be considered mandatory for all employees to attend with pay.
   a. These trainings must be effective, interactive and must offer opportunities to ask questions and practice the information offered before the training and review are completed. Trainings must involve multiple modes for different types of learners and must include versions for low-literacy and those with little fluency in English. Trainings must also emphasize the prohibition against retaliation for workers who raise safety concerns, similar to the language in the Covid-19 rule.
   b. These trainings must include an explanation of heat stress, heat strain, heat-related disorders, heat stress hygiene practices (such as fluid replacement, lifestyle, and health status) and how to recognize heat-related illness.

\textsuperscript{22} See tables 6-2 and 6-3 in \url{https://www.cdc.gov/niosh/docs/2016-106/pdfs/2016-106.pdf}.
\textsuperscript{23} \url{https://www.army.mil/article/186280/heat_can_kill_you}; \url{https://ucanr.edu/sites/safety/files/2901.pdf}
\textsuperscript{24} \url{https://doi.org/10.1002/ajim.23175}.
\textsuperscript{25} The 5 minutes provided for in the draft rule is not enough, in some cases, to prevent heat illness. Draft Excessive Heat Rule (May 26, 2021) at. p.4.
c. Trainings should also include policies of self-determination, acclimatization, site-specific countermeasures, and emergency response procedures which explains how to cool stricken employees, procedures for contacting emergency services, and how to provide clear worksite directions to emergency medical personnel.

d. The hierarchy of controls should be utilized, including but not limited to elimination or substitution of the hazards, increasing air velocity, using reflective or heat-absorbing shielding or barriers, providing access to cooling vests, a trained buddy system, and increasing the number of employees per task with appropriate applicable social distancing (if feasible).  

e. During high heat events, supervisors should check in with acclimatized employees within an hour or two for the start of the shift, half-way through a shift, and towards the end of the shift as well to ensure proper monitoring. The check in with unacclimatized employees should be more frequent. When the signs, symptoms, or indicators of severe heat illness (such as, but not limited to, decreased level of consciousness, staggering, vomiting, disorientation, irrational behavior or convulsions) are present, an employer must immediately contact emergency medical services and implement emergency response procedures. If employing a non-supervisory monitor to check with the employees in high heat, the monitor must have all the training a supervisor is required to have and must be trained to identify heat-related symptoms, how to address them and must have the power to remove the individual from the hazardous location to safety with appropriate transportation.

6. We are pleased and supportive of the current draft rule’s ‘Acclimatization Plan,’ which specifies that increases to heat exposure for new and unacclimatized workers should be no more than a 20% increase per day. Maximum work level increases should be phased in as illustrated in the tables below to ensure safe and proper acclimatization.

<table>
<thead>
<tr>
<th>Table 1 for Unacclimatized Employees</th>
</tr>
</thead>
<tbody>
<tr>
<td>Day 1</td>
</tr>
<tr>
<td>20% Increase to Heat Exposure</td>
</tr>
</tbody>
</table>

See also https://www.cdc.gov/niosh/topics/heatstress/recommendations.html#:~:text=Control%20of%20Heat%20Stress&text=Engineering%20controls%20might%20include%20those,%2C%20wet%20floors%2C%20or%20humidity.

IV. Work traditionally measured by output quotas must be suspended during high smoke and heat events, and employees/workers who can be relocated to a safer work area must be.

Due to the exigent nature of wildfire smoke and excessive heat events, we urge Oregon OSHA to require that traditional output quotas be suspended in both final rules. Without such protections, workers/employees will undoubtedly try to physically exert themselves in an attempt to meet demands in conditions that don’t allow it. Doing so will allow for the full implementation of the safety protocols and controls put forth by this agency and create workplace cultures that make supervisors and employees want to fully implement health-based protections. In a similar vein, this agency should specify that work shifts that can be flexible during both high heat and smoke events should be shortened or moved to different times to limit exposure, and employees/workers that can be physically relocated from a hot or smoky workplace to a cooler or safer place, must be.28

OSHA should also require the maintenance of wages and benefits when employees need to avoid an unhealthy workplace or miss work due to health impact from smoke or heat.

V. Oregon OSHA should strongly consider implementing emergency rules in preparation for this upcoming wildfire season and summer heat.

Because rules for wildfire smoke and excessive heat are not scheduled to be finalized until Fall 2021, we implore Oregon OSHA to implement emergency rules using the most health-protective thresholds as possible in anticipation of the forthcoming wildfire season and extreme summer temperatures by the end of June.

As is customary with new rules, Oregon OSHA must create a poster and visual information about the new requirements for both rules, which must be posted at central, highly-visible locations at

<table>
<thead>
<tr>
<th>Days Away from Heat Exposure</th>
<th>Recommended Heat Exposure for 1st Day Back to Work</th>
<th>Recommended Heat Exposure for 2nd Day Back to Work</th>
<th>Recommended Heat Exposure for 3rd Day Back to Work</th>
<th>Recommended Heat Exposure for 4th Day Back to Work</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt;5</td>
<td>80%</td>
<td>100% (fully re-acclimatized)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&gt;12</td>
<td>60%</td>
<td>80%</td>
<td>100% (fully re-acclimatized)</td>
<td></td>
</tr>
<tr>
<td>&gt;20</td>
<td>50%</td>
<td>60%</td>
<td>80%</td>
<td>100% (fully re-acclimatized)</td>
</tr>
</tbody>
</table>

28 Currently only the draft wildfire smoke rules address relocation. Accord Draft Wildfire Smoke Rule (May 26, 2021) at p.3.
the worksites. As to both rules, backup plans to get workers to emergency medical services must be in place when workers are in areas with poor cell phone reception; employees and supervisors/monitors must be aware of and know how to access the backup plan.

The comments set forth above are based upon the most recent information available provided by Oregon OSHA as of this submittal date, and are subject to change as this rulemaking progresses or as new scientific information becomes available.

We have also appended a red-lined version of your current draft rules with proposed language changes in an effort to be more concise, efficient, and clear (see attached Appendices A and B). We look forward to continuing our partnership with you in the rulemaking process and working together to ensure that no Oregon worker is forced to choose between their health and a paycheck.

Sincerely,

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Attachments: Appendix A and B