

# MHCC Air Quality and Protection (Part of Inclement Weather Process)

## Introduction

Poor air quality specifically, from wildfire smoke or smog can contain gases, chemicals, and fine particles that can have adverse health effects. The most significant hazard comes from breathing fine particles in the air, which can cause coughing, wheezing, difficulty breathing, and impact lung function. Fine particulate matter of the 2.5-micrometer diameter or smaller size (PM 2.5) are considered the most harmful since these particles can reach deep into the lungs. This may worsen pre-existing symptoms caused by respiratory illness like COVID 19, Asthma, COPD or other heart and lung-related illnesses.

## Purpose, scope, and application

The objective of this air quality management plan is to ensure that the institution protect those within its oversight and complies with regulations.

Affected Individuals: Those who may need to work/play outdoors for an extended period of time (a cumulative total of more than one hour per 8-hour shift) during a wildfire.

## **Exemptions - The Program does not apply to:**

- Air contaminants from sources other than Wildfires (i.e. wood burning for heat, smog, etc.).
- Enclosed buildings or structures in which the employer ensures that windows, doors, bays, and other openings are kept closed except when necessary to enter and exit.
  - If the essential activity of the structure involves regular opening and closing of windows and doors the exemption does not apply.
- Enclosed vehicles in which a cabin air filter filters air and the employer ensures those windows, doors, and other openings are kept closed, except when it is necessary to open doors to enter and exit. Buses, light rail, and other enclosed vehicles used for transit systems where doors are frequently opened to board and unload passengers are NOT exempt from these rules.

**Air Quality Index (AQI).** The method used by the U.S. Environmental Protection Agency (U.S. EPA) to report air quality on a real-time basis. Current AQI is also referred to as the “NowCast,” and represents data collected over times of varying length in order to reflect present conditions as accurately as possible.

The AQI is divided into six categories as shown in the table below:

Air Quality Index Levels of Health Concern	Numerical Value	Meaning
Good	0 - 50	Air quality is considered satisfactory, and air pollution poses little or no risk.
Moderate	51 - 100	Air quality is acceptable; however, for some pollutants there may be a moderate health concern for a very small number of people who are unusually sensitive to air pollution.
Unhealthy for Sensitive Groups	101 - 150	Members of sensitive groups may experience health effects. The general public is not likely to be affected.
Unhealthy	151 - 200	Everyone may begin to experience health effects; members of sensitive groups may experience more serious health effects.
Very Unhealthy	201 - 300	Health alert: everyone may experience more serious health effects.
Hazardous	> 300	Health warning of emergency conditions. The entire population is more likely to be affected.

**NIOSH.** The National Institute for Occupational Safety and Health of the U.S. Centers for Disease Control and Prevention. NIOSH tests and approves respirators for use in the workplace.

**PM2.5.** Solid particles and liquid droplets suspended in air, known as particulate matter, with a diameter of 2.5 micrometers or smaller. This makes up a part of the AQI along with other variables, and is the main health risk during a Wildfire event.

PM2.5 in Micrograms per Cubic Meter ( $\mu\text{g}/\text{m}^3$ )	Oregon Air Quality Advisory (DEQ)	Air Quality Index (AQI)
35.5 $\mu\text{g}/\text{m}^3$	101	<b>101</b>

**Wildfire Smoke.** Emissions from fires in “wildlands” or in adjacent developed areas.

#### Air Quality Protocols

- Managers are responsible to be aware of air quality that their employees may be exposed to.
- Engage EHS for tools and options.
- To begin the assessment of the index, start with the chart...

### Green on air quality Index (0-50)

- Normal outdoor activities may occur

### Yellow on the air quality Index (51-100)

- Use caution and closely observe signs of labored breathing for those with respiratory health needs when outdoors.
- Communication plan implemented
  - Groups (College/CDFS)
    - Explain impacts to different college areas in communication
  - Individuals working or playing outdoors (Manager/Teacher)
  - Work or play in buddy system
  - Encourage indoor activities
- System for reporting and following up on concerns
  - Emergency Services – call on 911
  - MHCC Public Safety – Urgent safety/crime issues 503-491-7911
  - Safety concerns or Injury reporting
    - Notify manager for action and reporting
    - Reporting through Safe Colleges (link)

### Orange on the air quality Index (101-150)

- **Poor air quality flyer (training) must be provided (sent out) to all employees**
- Recommend indoor activities or remote work were possible
- Outdoor activities should be brief and less than 15 minutes and not greater than 2 hours for adults and older children in a 24-hour period
- Those with increased health needs are more susceptible (elderly, infants/toddlers, or those with medical conditions) should not be outdoors.

Note: Outdoor activities in these conditions require enhanced environmental controls or PPE (Personal Protective Equipment). Individuals required to work in these conditions must coordinate the activities through the EHS department to provide adequate protection. Respirators will be made available based on needs.

### Red on the air quality Index (151-200)

- Limit activities to indoor or remote work were possible
- Outdoor activities should be brief and less than 15 minutes in duration for adults and older children
- Those with increased health needs are more susceptible (elderly, infants/toddlers, or those with medical conditions) should not be outdoors and monitoring is recommended.

Note: Outdoor activities in these conditions require enhanced environmental controls or PPE (Personal Protective Equipment). Individuals required to work in these conditions must coordinate the activities through the EHS department to provide adequate protection. Respirators will be made available based on needs.

#### Purple on the air quality Index (201 +)

- No Outdoor activities.
- Outdoors for transition only
- Those with increased health needs are more susceptible (elderly, infants/toddlers, or those with medical conditions) should not be outdoors and monitoring is recommended.

Note: Outdoor activities in these conditions require enhanced environmental controls or PPE (Personal Protective Equipment). Individuals required to work in these conditions must coordinate the activities through the EHS department to provide adequate protection. Respirators will be made available based on needs.

#### Exceptions:

Enclosed buildings and structures in which the air is filtered by a mechanical ventilation system and the employer ensures that windows, doors, bays, and other exterior openings are kept closed, except when it is necessary to open doors to enter or exit.

Enclosed vehicles in which a cabin air filter filters the air and the employer ensures those windows, doors, and other openings are kept closed, except when it is necessary to open doors to enter and exit. Buses, light rail, and other enclosed vehicles used for transit systems where doors are frequently opened to board and unload passengers are NOT exempt from these rules.

#### Additional air quality tools:

<https://fire.airnow.gov/>

**AIR QUALITY email:**

**The EHS team is recommending that today's activities be limited to the indoors and vehicles where air can be filtered.**

As we continue our commitment to safety and the protection of our employees, as well as stay in alignment with the OR-OSHA for AIR-quality Wildfire Smoke Policies, in particular those potentially exposed to the outdoor Environmental Factors, which could increase the development of heat related illness and air quality related health effects. Below is the AIR Quality index for today, as well as helpful information for identification and prevention of heat related illness.

**Today's (MM/DD/YYYY) AIR Quality index is forecast to be:**

**10:00am-11:00am:**

**11:00am-6:00pm:**

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