

WAC 296-820-845 Measuring PM_{2.5} levels at the worksite. (1) An employer may use a direct-reading particulate sensor to identify harmful exposures as required by WAC 296-820-815, if the employer can demonstrate that it has complied with this section (WAC 296-820-845) and selected a direct-reading particulate sensor that:

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

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

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

(3) The employer must:

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

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

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

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

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060, and chapter 49.17 RCW. WSR 24-01-070, § 296-820-845, filed 12/14/23, effective 1/15/24.]