VIRAL RESPONSE MODULE 2021-2022

JUNE 2021

Fitwel Enhanced Indoor Air Quality Testing Policy

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This document provides project teams with a policy that can be used as a template and be adopted in full to comply with requirements of the Fitwel Enhanced Indoor Air Quality Testing Policy. Project teams can either use the exact content of this document to establish new policies, or update existing policies by adding any missing components from the below.

A qualifying enhanced indoor air quality (IAQ) testing policy must include the following:

1. Implementation

☐ when implementing the policy in multi-tenant commercial and residential buildings, the protocol will apply to all areas under the control of the building management, including common elevator banks on tenant floors.

☐ when implementing the policy in single tenant buildings and commercial interior spaces, the protocol will apply to all areas within tenant spaces.

2. Required Testing Metrics

All indoor air quality testing will follow the protocols under section 3, and will meet the following metrics:

☐ Required metrics for $PM_{2.5}$ and CO_2:

- The following air quality metrics must be tested to confirm compliance with the recommended limits:
  - $PM_{2.5}$: less than 12 µg/m^3
  - CO_2: less than 1000 ppm.

☐ Additional required metrics:

- A minimum of **three** of the following air quality metrics must be tested* for to confirm compliance with the recommended limits:
  - TVOC: less than 500 µg/m^3 or 132.73 ppb (ug/m^3 = ppb * 3.767)
  - Relative Humidity: between 30-60%
  - Ozone: less than 0.07 ppm
  - CO: less than 9 ppm
  - Formaldehyde: less than 27 ppb.

*Monitoring, following the protocols under Section 4 may be used instead of monitoring to demonstrate compliance with the required metrics under section b.

3. Testing Protocols

Air Quality testing must be conducted:

- ☐ annually post-occupancy in all required areas
- ☐ after any construction and major renovations prior to occupancy within all required areas.
- ☐ post occupancy following all long-term closures (2 weeks or more) or significant reduction in occupancy (more than 25%), within all required areas.
- ☐ to show the average levels measured for each required zone
- ☐ during work hours while HCA systems are operating at design parameters
- ☐ in the breathing area between 3 and 8 feet from floor level
- ☐ every 25,000 sq.ft., or per Air Handling Unit (AHU) zone whichever is more stringent.
- ☐ using **one** of the following testing methods as applicable:
    - Direct reading from IAQ testing devices for TVOC, PM_{10}, $PM_{2.5}$, CO, CO_2 and relative humidity.
    - EPA: Compendium Methods IP-10 ($PM_{2.5}$) / IP-1 (TVOC) / IP-3 (CO_2 and CO) / IP-6 (Formaldehyde), TO-1 and TO-17 (TVOC), TO-11 (Formaldehyde)
    - ISO: 7708 ($PM_{2.5}$) / 16000-6 (TVOC) / 4224 (CO) / 16000-3 (Formaldehyde) - ASTM D5197 or NIOSH 2016: (Formaldehyde).

4. Monitoring Protocols

Air Quality monitoring must be conducted:

- ☐ to continuously show monthly averages and peaks lasting for more than one hour during work hours while HVAC systems are operating at design parameters.
- ☐ on every 25,000 sq.ft., or per Air Handling Unit (AHU) zone, whichever is more stringent.
- ☐ using monitors that meet **all** the following requirements:
    - has a data output interval of at least once every 5 minutes
    - has a data loss rate of 10% or less
    - has a minimum operating range for temperature of 0-40 °C (or 32 - 104 °F).
    - has a minimum operating range for relative humidity of 5-85% RH, non-condensing
    - requires permanent installations
    - is calibrated and confirmed functional without defect prior to shipping.

5. Improvement Protocol

A protocol to improve the air quality will be implemented if the recommended limits for air quality metrics are not met.