LEEDuser

LEED 2009 for Existing Buildings: Operations & Maintenance

IEQ CREDIT 1.2: INDOOR AIR QUALITY BEST MANAGEMENT PRACTICES OUTDOOR AIR DELIVERY MONITORING

Most buildings will apply here.

This active sample form has been modified for offline access. Modified fields and instructions are indicated in purple. Sample forms are for reference only.

Select all that apply to the project building:

- ☒ The project building is mechanically ventilated, in part or in whole.
- ☒ The project building has mechanical ventilation systems that predominantly serve densely occupied spaces[1].
- ☐ The project building is naturally ventilated, in part or in whole.

1 Densely occupied space is defined as an area with a design occupant density of 25 people or more per 1,000 square feet (40 square feet or less per person)

Check here if you have any densely occupied spaces.

Complete the narratives based on the building specific systems and controls.

MECHANICALLY VENTILATED BUILDINGS

Describe the ventilation system design and the outdoor airflow measurement device(s) in the system, including the device design and monitoring capabilities and specific details on the location of the measurement devices.

Describe the alarm system and the protocol for making system adjustments when ventilation rates fall below acceptable levels.

REFERENCE

LEEDuser

Select the full documentation or streamlined path.

A Licensed Professional Exemption (LPE) is available for Professional Engineers in lieu of an Outdoor Air AHU Table.

Select one of the following:

- ○ Streamlined path: LPE (PE).
- ◉ Full Documentation.

The measurement interval must be a 15 minutes or less. Also, the alarm setpoint must be within 15% of the minimum outside air setpoint.

For each air handling unit (AHU) that supplies outside air to the building's occupied spaces, complete the table below.

Table IEQc1.2-1. Outdoor Air AHUs

AHU Designation	Outdoor Airflow Measurement Device Present?	Minimum outside air flow[1] (CFM)	Measurement Interval (minutes)	Alarm Setpoint
AHU 1	Yes	775	15	750
AHU 2	No	100		
Percent of outdoor air monitored(%) (must be 80% or greater. Only AHU's with outdoor airflow measurement devices having measurement intervals of 15 minutes or less contribute towards this total)				89

Add Row | Delete Row

LEEDuser

Provide a copy of applicable maintenance plans and a trend graph of airflow over a 24 hour period.

Select one of the following:

- ○ **Summary Calibration Report:** The project team will provide dated summary calibration report and system testing, performed and completed within the manufacturer recommended interval, as measured from the conclusion of the performance period.
- ◉ **Maintenance Plan:** The project team will provide a maintenance plan outlining procedures that ensure sensor accuracy and precision, proper operation of the overall system and repair/replacement of any malfunctioning components.

Upload IEQc1.2-2. Upload a maintenance plan outlining procedures that ensure sensor and actuator accuracy and precision, Proper operation of the overall system, and repair/replacement of any malfunctioning components.

Upload *Files:*

Upload IEQc1.2-3. Upload a trend graph from at least one outdoor airflow measurement device showing airflow for a continuous 24 hour period during a typical operational day.

Upload *Files:*

If the total square footage of densely occupied space is less than 5% you're done. If not more documentation is required.

MECHANICAL VENTILATION SYSTEMS SERVE DENSELY OCCUPIED[1] SPACES

Select one of the following:

- ○ The total square footage of all densely occupied[1] spaces is less than 5% of total occupied square footage within the project scope.
- ◉ The total square footage of all densely occupied[1] spaces is equal to or greater than 5% of total occupied square footage within the project scope.

AREA OF DENSELY OCCUPIED[1] SPACES IS EQUAL TO OR GREATER THAN 5% OF TOTAL AREA

Describe the alarm system and the protocol for making system adjustments when ventilation rates fall below acceptable levels.

If the total square footage of densely occupied space is more than 5%, more documentation is required. First, provide narratives for the alarm system and demand control ventilation if applicable.

LEEDuser

Select one of the following:

- (●) The floorplan(s)/sketch(es) above shows each occupied floor in the project buliding with a unique layout or ventilation design, and it highlights densely occupied areas, the floor area of each densely occupied space, & the location of CO_2 sampling points. If a single floor plan/sketch represents more than one floor, the plan/sketch is clearly labeled with the floors to which it applies.
- ( ) A different document is better suited to satisfy this requirement.

Provide floorplans showing CO2 monitoring locations and a maintenance plan or calibration report.

Select one of the following:

- ( ) **Summary Calibration Report:** The project team will provide dated summary calibration report and system testing, performed and completed within the manufacturer recommended interval, as measured from the conclusion of the performance period.
- (●) **Maintenance Plan:** The project team will provide a maintenance plan outlining procedures that ensure sensor accuracy and precision, proper operation of the overall system and repair/replacement of any malfunctioning components.

Remember that CO2 monitoring must be in the breathing space (between 3ft – 6ft), not in return ductwork.

Table IEQc1.2-2. CO2 Data Sensors

Ambient outdoor CO_2 concentration	440
The Ambient Outdoor CO_2 concentration figure above was derived from	Default 440 PPM

Densely Occupied Space ID	Area (sf)	CO_2 Sensor Distance from Floor (ft)	Measurement Interval (minutes)	Maximum CO_2 Delta from Ambient based on ASHRAE 62, Appendix C (PPM)	Alarm Setpoint (PPM)
2nd Floor Conference R	800	5	15	660	1,000

Add Row | Delete Ro

Each space complies with th
measurement interval is les
outdoor CO_2 concentration (
less than 150 square feet do

Sample information shown and is not based on default assumptions. Actual system characteristics should be entered and the max CO2 delta derived based on ASHRAE 62 Appendix C. Note that spaces less than 150 SF are not included.