

EQc1: Outdoor Air Delivery Monitoring

Sample Narrative – Office building

There are two kinds of monitors installed for compliance with this credit

1. CO2 monitors – These monitor the level of carbon dioxide in the conference rooms and auditoriums, which are expected to have high occupancy rates.
2. Outside air monitoring – These constantly monitor the level of outside air entering all other regularly used spaces. The target levels for mechanically supplied outside air have been set according to the expected occupancy and the ASHRAE 62.1 standards for all spaces. This monitor will ensure that sufficient outside air is being introduced into these spaces and will sound an alarm when outside air falls to 10% below targeted levels.

Both the carbon dioxide monitors and outdoor air measurement devices will be wired into a control panel in the mechanical room and integrated into the building management system (BMS) software.

We have also uploaded drawings showing the exact location of the carbon dioxide monitors, outdoor air monitors, and BMS equipment. The ventilation calculations based on ASHRAE 62.1-2007 have also been uploaded.

Carbon Dioxide Monitoring

1. As indicated on the mechanical plans, carbon dioxide monitors will be connected to a control panel in the mechanical room and to the BMS. Monitors will generate a visual signal at the control panel and in the BMS software whenever carbon dioxide levels rise above the high limit set point of 800 ppm in any space. The BMS software has been designed to automatically adjust the ventilation rates when the measurements vary from the target set points by +/- 10%.
2. The control panel and the BMS will enable separate carbon monoxide monitor readings for each space, and will trigger both an alarm and an automated response if levels reach the high limit set point.
3. The CO2 sensors are located 4 feet off the ground. Each conference room has one dedicated CO2 sensor and the auditorium has three CO2 sensors located throughout.

Outdoor Air Measurement Devices

1. The device will provide direct measurement of airflow through an outside air intake and be capable of producing dual outputs:
 - a. Measured airflow
 - b. Control of intake damper through BMS controls
2. The device shall measure outdoor airflow with an accuracy of +/- 15% from the design set points according to the ASHRAE calculations. See mechanical drawings and schedule for set point details.
3. The device shall interface with the BMS and be capable of accepting inputs for economizer mode, fan systems start, and an external controller set point. In addition, it shall generate an alarm when airflow rates deviate from established set points.