

School/Facility: Elkridge Elementary

Location: Pre-K Classrooms

Date of IEQ Report Form: October 13, 2016

Date(s) Investigated: October 19, 2016

Date of Report: December 23, 2016

IEQ Concern:

Staff reported suspect mold growth on external metal components of the supply air diffusers.

IEQ Investigation Process:

Identify deficiencies that may impact IEQ and/or sources of odor concerns. Typically includes the following depending on the nature of concern, but not limited to:

- interview/questionnaire of concern individual(s)
- inspection above drop ceiling (condition of roof deck, pipe insulation, return air plenum)
- inspection of ventilation system (operation of variable air volume box and outdoor air dampers, check controls, measurements of carbon dioxide, temperature and relative humidity, sources near outdoor air intake, measure return and supply air volume, cleanliness of coils, liner and condensate pan)
- inspection of exterior
- inspection below drop ceiling (housekeeping, sink and floor drain traps, signs of past and present moisture concern via visual and/or moisture meter, mold growth, ensure connection of current and capping of abandoned sanitary vents, odorizers, excessive plants and fabric items, identify potential pathways, and measure volatile organic compounds, carbon monoxide, and lighting)

Findings:

- Initially reported and responded to September 12th. The four diffusers were found to have particulate buildup at the typical locations of the metal fins (corners). At the same time, suspect spotty mold growth was observed within the particulate mass. Condensate or rusting was not observed.

Particulate on diffusers is not uncommon and is due to particulate in ambient air and HVAC air stream. Particulate either impacts and/or attracts to the metal components of the diffuser. The suspect mold may be due to extreme chilled air exiting the diffuser or thermal differences of the metal surface and ambient air (if windows open during warm humid day).

The diffusers were cleaned/disinfected using Ultra Chem Q-128 (EPA registered).

On October 19th, only one diffuser had one isolated spotting.

Corrective Actions:

- Two thermostats existed, but were not labeled. One thermostat was for the HVAC unit while the other was a space temperature sensor for monitoring space via the energy management system. The sensors were calibrated and operating program reviewed. The decision was made to change the program from using temperature sensor in room to using the return air sensor.
- School administration is to inform custodial staff to routinely clean supply air diffusers per their task frequency chart or in this matter at least once a month.
- The Office of the Environment will set out a data logger next cooling season to collect temperature and relative humidity data.