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General Guidelines for School Re-opening during Covid-19

We have not seen detailed technical guidance from NYS SED or a NYS Executive Order on Air filtration for schools to date. That could change. CDC and ASHRAE has recommendations/guidelines that would suggest that higher efficient filters be use, increase ventilation rates, and maintain Humidity levels between 40% and 60%.

At this time, we can only provide some general filter guidance. This general guidance will work with the typical filter depth capacity and static capabilities of Unit Vents, RTUs, and AHUs. With the current recommendations/guidelines would suggest the following items can be done immediately in order to address the current recommendations/guidelines:

Immediate Items to Implement for HVAC Systems:

1. Change out any MERV 8 filters with MERV 13 Filters
2. Test/Inspect current HVAC systems to insure they are operating and being controlled as designed. Have the district maintenance personnel, along with assistance from your Energy Management System Vendor, go through and inspect all the buildings HVAC systems to verify systems are operating and being controlled as designed. Run through systems through there occupied sequence of operations and confirm that all systems are running, outside air dampers are operating and control valves are working.
3. Operate Mechanical Systems in occupied mode for a minimum period of one week prior to students returning.
4. Provide a Daily flush prior to occupancy. Mechanical Systems should be operated in occupied mode for a minimum of 2 hours prior to occupants re-entering the building.
5. Disable any systems operating using Demand Control Ventilation

Concerning the Increased filtration guidance

Typical school filtration uses standard MERV 8 filters which are lower level efficiency filters. At this time, we can only provide some general filter guidance. This general guidance will work with the typical filter depth capacity and static capabilities of Unit Vents, RTUs, and AHUs located in your buildings

With your existing equipment we recommend replacing MERV 8 with MERV 13 filters. MERV 13 efficiency levels achieve high levels of water vapor filtration. The MERV 13 filters can be installed at the same locations as the MERV 8 filters without modifications to equipment or impact to the systems operation. **The MERV 13 filters are more expensive than MERV 8 filters and due to the current demand, looking at 4 to 8-week lead times**

Concerning Increases Ventilation Rates:

Addressing the increased levels of ventilation recommendations may be feasible with existing equipment, but this will require consultation with an engineer to verify that the equipment will continue to function as desired. Each of these systems will need to be evaluated to ensure that any increase in ventilation is supported by the ability of the equipment to effectively heat and cool the areas served. Contact and review any increases in Ventilation rates with your Design Engineer and Energy Management System Vendor prior to implementing.

Other Options for Risk Reduction:

If further risk reduction is desired, studies suggest that ultraviolet lights (UVC) can help reduce many contaminants in the airstream and that get captured by the filters. These lights could be installed in most equipment at a reasonable cost. The lights have an added benefit of elongating the life of filters as well. This option would need to be evaluated for each system by the Equipment Manufacturer, Design Engineer or HVAC professional to confirm system operation and installation method.

Future Design Considerations:

The ideal approach for new designed equipment is to use MERV 9 to 13 prefilters in combination with HEPA filtration (MERV 17 to 20) and UV light technology in central equipment. This is a high level of risk management. This is easily done in new system designs. Retrofit of existing equipment will be problematic or not possible. This approach for Unit Ventilation equipment will be more problematic due to the physical size constraints of these system and will likely depend on the future designs of the actual equipment used. At a minimum the MERV 13 filters will be specified and accounted for in these designs

Remember that any CIP renovations, that have been done to the District building's over the last 30+ years, currently meet or exceed the current NYS Building Code, Mechanical Code, Energy Code and SED requirements for ventilation within classroom spaces and other occupied building spaces including cafeterias, gyms, auditoriums, and office areas. You may also want to make people aware that the district has a proactive maintenance program for the timely replacement of air filters for all the ventilation equipment that either meets or exceeds these standards.

We will continue to evaluate the ongoing guidance from the CDC, SED and Governor's office and implement update you. If you have any additional questions, please let us know