

## Air Quality Questions Generated for the March 8, 2007 IAQ Meeting

1. Why is this information and the solution going to take so long?

The solution to improving indoor air quality involves replacing the heating and ventilation systems. Before actual construction on replacing these systems takes place, there are planning and design processes that must be completed so the project work can be publicly bid and awarded to a contractor. Since the systems replacement work involves all of the heating, ventilation, and air conditioning (HVAC) and related equipment, the project has to be staged over two summers so the facility can remain open while the new equipment is installed.

2. When will the septic tank be removed?

The septic tank has been pumped out and partially filled with a concrete slurry. The balance of the fill will be placed and the tank abandoned by April 6th 2007.

3. What will it take to regulate the mold in the building?

While it is difficult to eliminate all forms of mold, the most effective measure to regulate mold is to control moisture. The new HVAC systems will control humidity in the building and eliminate a primary source of moisture. Until the work to install these new systems is completed, the following interim measures will be implemented:

- Routine checks of the HVAC pipes, fittings and insulation to ensure prompt repair of any localized leaks
- Use of portable floor fans and dehumidifiers where needed in areas experiencing excessive humidity
- Keep windows and outside doors closed at all times during the cooling season
- Keep thermostats set no lower than 76F during the cooling season to prevent overcooling and condensation issues

4. Can we have all the reports available for the next meeting? Making the findings public will mean less questions.

All of the reports will be provided at the next meeting.

5. How is it that there are no correlation in the cases when a person walks into a room and breaks out in hives? Once they leave the room they are fine. There has to be something with the data.

From a health or medical perspective, only an occupational health (OH) physician is qualified to draw a correlation between occupant complaints and the building environment. Using sampling information gathered by an industrial hygienist and information gathered during patient interviews, questionnaires and physical examination, the physician is able to correlate the employee's condition and complaints with any known potential health hazard(s). Since there are a number of common allergic triggers that may cause hives, including drugs, foods, infections, insects and insect parts, dust mites, pollen, animal dander and contact allergens like plant substances, without this type of evaluation it is difficult to determine whether the source of the reaction is the building environment.

6. I know of a teacher who comes into her room everyday and gets eye infections and nose bleeds, but when she comes home she feels fine. How are they saying that doesn't connect to mold growing in her room and causing her to get sick?

Because the symptoms clear up and the teacher feels fine when she comes home, this could possible be an indication of a potential trigger source in her room. However, eye infections and nose bleeds are symptoms that can be caused by other factors beside mold. Without a complete evaluation by an OH physician no conclusive correlation can established.

7. UVA devices worked in other schools so maybe they could work here.

In my research, I have not found any studies or data showing how effective UVA devices have worked in schools.

8. If you guys are saying this school is safe then why are there so many people getting sick? I know that in school I get a really bad headache and when I leave I am fine. I can't prove it is because of mold, but what else could it be?

Using best practices recognized in the environmental profession, independent consultants performed microbial sampling which revealed mold levels "typical for an indoor environment". As stated earlier, non-specific symptoms like headaches, may be caused by allergies to other triggers. Such conditions have to be evaluated further by an occupational health physician before any conclusions can be drawn.

9. How much man power and money would it take to make it "physically possible" to finish all the work in one summer?

Logistically, it is not possible to finish all the work in one summer. We are not only replacing the ventilation systems but also all the infrastructure components that go with it including the chilled water piping and system controls.

10. Why would you want to put a new system in to control humidity without a humidity detector?

For roof top ventilation systems that serve certain areas (main office, guidance, media center and computer lab), humidity sensors are being installed. For other areas, temperature sensors are being installed because they are more reliable and require less calibration.

11. How many complaints investigated? How many were investigated? What were the measurements taken in the various rooms, when, and what were the result levels?

There have been 22 indoor air quality complaints submitted that were investigated since 2005. Depending on the nature of the complaint, measurements may or may not have been taken. The sampling results can be found in the reports completed by M.A.Cecil & Associates in 2006 that have been provided to the school. In March of 2007, Building Dynamics investigated many of the complaints received in 2007 and have provided findings and sample results as well. Additional copies can be obtained by contacting me at Sean\_R\_Yarup@mcpsmd.org.

12. What medical records were done?

Medical records cannot be accessed without individual consent due to the rights and privileges provided to individuals under the Health Insurance Portability and Accountability Act(HIPAA).

13. I see a compromise being drawn according to my calculations and observations. The solution of the bald gentleman is seen by me as sufficient, but for the sake of money. I see it being incorporated into the larger plan as the small solution. I want to see this firm back off and see the independent specialists' idea fully tested.

No response requested.

14. What is the cost, timeline for implementation, and feasibility for implementation of UV technology? If we are not going to do it, what are the specific reasons why?

MCPS only recognizes credentialed governmental and professional organizations (e.g., ASHRAE, CDC, NIOSH...) when reviewing systems/products for use in the school system. The American Society of Heating, Refrigeration, and Air Conditioning Engineers, a recognized industry association on HVAC issues, presently does not have a policy or recommendation on the use of UV light in air systems for microbial control. Furthermore, there are no consensus standards or guidelines on the design, installation, commissioning and certification of ultraviolet radiation systems for purifying the indoor air. Epidemiological studies on the health benefits of UV air treatment are limited in quality and do not provide conclusive benefit data. Without such standards and credible scientific data, MCPS cannot ensure the performance or reliability of these systems

15. Do OSHA standards apply to schools? What are the OSHA standards related to mold?

Currently, there are no federal standards or recommendations, (e.g., OSHA, NIOSH, and EPA) for airborne concentrations of mold or mold spores. Scientific research on the relationship between mold exposures and health effects is ongoing.

16. There are times that the news says that people with allergic reactions should not be outside due to allergies. Are we comparing the indoor air quality to this poor outside quality?

According to best practices in the environmental profession, indoor mold concentrations are compared to outdoor mold concentrations when determining "acceptable" indoor air quality. In addition, the species diversity and ranking to the outdoors are compared. These are the only guidelines currently available on assessing indoor mold concentrations.