

**Indoor Air Quality at MATC
Five-Year Follow-up Report
July 29, 2003**

Introduction

In May 1998, AFT Local 212 received a grant from the American Federation of Teachers to carry out a survey of indoor air quality at MATC. Jonathan Rosen, a certified industrial hygienist, and director of the New York Public Employees Federation Health and Safety Department, conducted the study on July 14-15, 1998. He presented his findings in a report published in March 1999, and in a meeting with Dr. John Birkholz, president of MATC, in April of that year.

Dr. Birkholz reviewed the report, and sent a memo to the ad hoc Indoor Air Quality Committee on June 24, 1999, that expressed the district's support for the committee in its work "to evaluate IAQ issues and offer input on possible solutions." He assured us that "MATC is committed to proactively addressing IAQ problems throughout the district" and that "the assistance of the IAQ Committee is critical to the resolution and management of IAQ issues."

The North Central Association (NCA) included the recommendations from the Indoor Environmental Quality Report in its own assessment of the college and made the recommendations a condition of the college's accreditation.

Progress Report

In the four years since that time, the college has made some notable improvements in its response to indoor air quality concerns, as well as improvements in the physical environment. These changes have enhanced the college's commitment to teaching and learning for students, instructors, and staff. But much still needs to be done. This progress report has been put together by AFT Local 212 and AFSCME Local 587, with input from the college's representatives on the Joint Indoor Air Quality Committee.

The following positive steps have been taken to address IAQ concerns:

- 1) Establishment of a Joint Indoor Air Quality Committee consisting of representatives from AFT Local 212, AFSCME Local 587, the Environmental Health and Safety Coordinator, Engineering Services Manager, and Construction Services Department. This committee meets bimonthly and publishes a twice-yearly newsletter.
- 2) Establishment of a procedure for dealing with indoor air quality concerns, using the Request for Action form. If faculty, staff, or students have an air quality concern, they fill out a request form, and submit copies to the Environmental Health and Safety Coordinator and to their union representative. The Joint IAQ Committee considers these requests and attempts to work out solutions.

- 3) Adoption of the EPA's Tools for Schools Action Plan, which provides a process for resolving complaints, as well as educational and background materials, and sample surveys and checklists to obtain faculty and staff input. It also recommends procedures for dealing with common IAQ concerns, such as maintenance, water damage, pest control, and renovations.

There have also been improvements in the physical environment of the college:

- 1) Relocation of the fresh air intake of the C Building to the roof, which prevents the entry of exhaust fumes into the building, both from the street and from the parking garage beneath the building. It also prevents smoke from cookouts and other events on the mall from entering the building.
- 2) A new HVAC study of the C Building, which recommends an upgrade of the air handling system, and improvements in energy efficiency. Phase I was the relocation of the air intake. The next phase involves a major upgrade in the college's chiller capacity, to allow the air conditioning of the entire C Building. Currently, the outside rooms have only unit ventilators, and are subject to heat buildup and poor air circulation and quality.
- 3) Replacement of the T Building roof, and the removal of water-damaged materials on the third and fourth floors. The college called upon the services of a consulting industrial hygienist to test these materials for microbial growth, and carried out a supervised cleanup.
- 4) Implementation of an Integrated Pest Management Program to reduce the use of pesticides.
- 5) Separation of food wastes from other trash, and placement into a covered dumpster, which reduces the odors near the T Building Loading Dock.

However, many issues still remain unresolved. In an ongoing attempt to create and maintain an environment that supports the college's mission of teaching and learning, we present the following recommendations.

We believe these suggestions will also improve energy efficiency, improve student performance (see attached EPA study), improve employee morale and productivity, reduce healthcare costs and sick time, and save money in the long term. The starred items are from the 1998 Indoor Environmental Quality Report, which have not yet been implemented.

Long-Term Recommendations

- 1) *Installation of a new air handling system in the C Building that conforms to ASHRAE standards. There is an overriding and immediate need to plan for

renovating the C Building ventilation system. The air quality is still poor in many areas, such as the Music, ESL, and Basic Skills areas. There are ongoing concerns and complaints about water damaged carpeting, heat buildup in computer rooms, PCB ballasts in lighting fixtures, and the intrusion of automobile exhaust from the Auto and Engine Repair areas. In the meantime, the existing systems need to be cleaned, maintained, tested, and balanced in order to provide the best possible air quality.

- 2) *Evaluation of ventilation systems in the Chemistry, Printing, Cosmetology, and Auto areas to make sure they are in compliance with industry standards.
- 3) *Review MATC's compliance with the Wisconsin State Code throughout the district and make corrections to the ventilation systems and maintenance programs as needed. Comm 32.24(4)(a) states that "all dusts, fumes, vapors and gases from local exhaust ventilation systems...shall be disposed of in a manner to eliminate the health hazards from occupied areas." The college should bring in a consultant from the State to evaluate compliance.

Intermediate Recommendations

- 1) *Develop an Indoor Air Quality Management Plan and Program, as required by the Tools for Schools IAQ Action Plan, including the development of written procedures for renovations, inspections, and cleaning and/or replacement of water-damaged ceiling tiles and carpeting.
- 2) *Update and redesign the Hazard Communication Program so that current Material Safety Data Sheets (MSDS) are available and employees are trained to be familiar with hazards and controls. Currently only Building Services workers receive "right-to-know" training. Under state law, the District is responsible for conducting hazard communication training for *all employees*, including Food Service, Shipping/Receiving, and Bindery, as well as instructors and staff in academic areas, such as Printing, Auto, Chemistry, and Cosmetology. This training should include the procedure for acquiring, updating, and interpreting MSDSs.
- 3) *Conduct an assessment for personal protective equipment, as required by OSHA standards 29 CFR 1910.132-37. Currently, MATC is not in compliance with these OSHA requirements. This would be included in the Hazard Communication Program conducted by the District.
- 4) *Consider an improved control system that eliminates the human error of forgetting to turn on the timer for the ventilation system in Cosmetology. Also consider installation of a modified downdraft table to reduce hazardous solvent emissions from Nail Technology.

- 5) *Offer training to members of the IAQ Committee so that they can more effectively carry out their duties. To date, we have had two training sessions, one organized by the college through Industrial Hygiene Solutions, a private consultant, and one organized by Local 212 through the Wisconsin Committee on Occupational Safety and Health (WisCOSH). Additional training needs to be provided on Hazard Communication.
- 6) *Ensure that chemical spill and emergency procedures are established and posted in areas of chemical use. The District is responsible for having spill procedures in place in all departments, operational as well as academic, and for training its employees. A consulting industrial hygienist should be employed to review the adequacy of such procedures.
- 7) *Review the Integrated Pest Management Program to ensure that ventilation procedures and notification requirements are being followed.

Immediate Recommendations

- 1) *Monitor live engine work in the High School Contract Auto classroom (C152) to ensure that proper ventilation controls are in place. The exhaust fan was replaced in Spring 2002, and so far at least the number of complaints has decreased.
- 2) Clean air ducts and replace filters throughout the college. This would improve air quality and increase efficiency of the ventilation system.
- 3) Remove worn and damaged carpeting in C Building classrooms and offices, including C252, C256, C270, C278, C282, C284, C286, C332, C334, and C336. This carpeting poses a health hazard, due to dust and mold, and creates discomfort for those with respiratory problems and allergies. Since the carpeting is wrinkled and torn, it also increases the risks of falls and is not ADA-compliant.
- 4) Replace carpeting in the S Building—including S114 (Teleconference Center), S101 (Enrollment Center), and S215 (Testing Center)—that has been damaged by leaking glycol from the heating and cooling system, and has taken on a foul odor. Preventive maintenance should be carried out to prevent more damage from leaks.
- 5) Remove all remaining PCB fluorescent lighting ballasts, and replace with safe, energy efficient ballasts. The PCB ballasts contain polychlorinated biphenyls, which pose a health risk when the lighting fixtures burn out. This has already happened in several rooms over the past two years, causing smoke and a potential fire hazard, as well as health concerns. Recently, a leaking ballast was found in the elevator that serves Channels 10/36.
- 6) Establish some smoke-free entrances for all campus buildings, which would improve air quality and enhance the image of MATC as an institution that cares about the health of its students and employees. An IAQ survey conducted this

- spring supported smoke-free entrances by an overwhelming majority of 74%, and the establishment of smoking shelters by an even larger majority of 76%. (See attached survey results and comments.)
- 7) *Discontinue use of fragranced sanitizers in restrooms, and use low or no-fragrance cleaning products whenever possible. Nearly half of employees (49%) who responded to the IAQ survey support the use of low or no-fragrance cleaning products. Repair and replace broken restroom exhaust fans as needed to improve ventilation. (See attached survey results and comments.)
 - 8) Make nontoxic low-VOC dry erase markers widely available. Many of the markers currently in use contain methyl ethyl ketone, which poses health risks. More than three-quarters (77%) of those who use dry erase markers reported being bothered by the fumes. Some also objected to alcohol-based markers, so the college should investigate other alternatives. (See attached survey results and comments.)
 - 9) Track down the sources of hydrogen sulfide (sewer gas), which has been an intermittent problem in the H Building and T Building. Periodically inspect and maintain drains to prevent gas from entering buildings.
 - 10) Clean and maintain recycling containers, waste receptacles, dumpsters and the area around them to reduce the potential for microbial and fungal contamination.

Conclusion

We feel that implementation of these measures would not only improve air quality, but also support a productive environment for teaching and learning. We understand that there are budgetary constraints, but we feel that these measures would cost relatively little, yet improve energy efficiency, improve student performance, improve employee morale, reduce absenteeism and healthcare costs, and save money in the long run.

Deferred maintenance and repairs compromise indoor air quality, accelerate deterioration, and dramatically increase the costs of fixing problems. Rather than cut our maintenance budget and allow our buildings and air quality to deteriorate further, we need to invest in our future. Health and safety should always be our number one priority. We owe it to our students and to the community.