

**Responses to Indoor Air Quality Complaints**  
**Department of Environmental Health and Safety**  
**Bowling Green State University**

On April 5, 1994 the Occupational Safety and Health Administration published proposed rules for indoor air quality. The proposed rules were withdrawn on December 17, 2001. Currently there are no federal or state enforceable standards that set limits specific to indoor air quality. In the absence of enforceable standards, there are informational guidelines that can be used to aid in indoor air quality management and investigation.

In the American Society of Heating, Refrigerating and Air-Conditioning Engineers Standard, "Ventilation for Acceptable Indoor Air Quality" (ASHRAE 62-2001), acceptable indoor air quality is defined as air in which there are no known contaminants at harmful concentrations and where the substantial majority (80% or more) of the people exposed do not express dissatisfaction.<sup>1</sup> Environmental Health and Safety will recommend outside assistance to conduct a comprehensive indoor air quality study if more than 80% of the building occupants express dissatisfaction.

Facilities Services has established a preventative maintenance program to inspect air handlers and their components for filter efficiency and contamination.

The following procedure will be used to respond to isolated calls.

- The Occupational Safety and Health Specialist will respond to the caller in person and look for an obvious source for the complaint (e.g., drain cleaner, transportation exhaust, sewer gas or natural gas odor, workplace design, possible sources of upper respiratory infections.)<sup>2,3</sup> The Occupational Safety and Health Specialist will provide recommendations to isolate, then reduce or eliminate the cause for the complaint. Facilities Services will be called to assist as needed.
- Depending on the circumstances, indoor carbon dioxide concentrations can provide a good indication of the adequacy of ventilation. In situations where there is no obvious cause for the complaint, the Occupational Safety and Health Specialist will conduct the carbon dioxide measurement protocol as described in Appendix A of the EPA; Building Air Quality, A Guide for Building Owners and Facility Managers.<sup>2</sup>
  - ✓ If the Carbon Dioxide test results exceed 1000 ppm, as established by the above reference, the Occupational Safety and Health Specialist will request Facilities Services to examine the operation of the heating and ventilation system.
  - ✓ After conducting this review and making corrections if needed, Facilities Services should report back the findings to the Occupational Safety and Health Specialist. The Occupational Safety and Health Specialist will conduct follow-up carbon dioxide test, report the results of these tests and the findings and actions of Facilities Services to the complainant. The Occupational Safety and Health Specialist will ask the complainant to determine whether the symptoms persist.

- ✓ If the symptoms persist and if the air test results are below 1000 ppm for carbon dioxide, the employee will be encouraged to see a physician, allergist, or other medical specialist about his/her symptom. If a medical professional has been contacted by the employee and treatment was rendered with no success, the employee will be referred to Human Resources. The Occupational Safety and Health Specialist will consult with the Human Resources to determine the next course of action.
- Improper temperature and humidity can cause comfort and health concerns. Warm humid environments encourage the growth of molds and fungi which can lead to allergic reactions.<sup>4</sup> Dry environments can irritate sinus linings causing sinus irritation which can lead to a sinus infection. The American Society of Heating, Refrigerating and Air-Conditioning Engineers Standard, “Thermal Environmental Conditions for Human Occupancy” (ASHRAE 55-1992), provides a table of acceptable ranges of temperature and relative humidity during summer and winter (in degrees Fahrenheit).<sup>5</sup>  
<http://www.bgsu.edu/offices/envhs/iaq/temp.htm>
- ✓ Environmental Health and Safety will refer temperature and humidity issues to Facilities Services.
- ✓ The employee should contact the supervisor or next administrative level to discuss options that address the issue on a short-term basis. Employees may contact Human Resources if this discussion does not resolve the problem.

Environmental Health and Safety will recommend outside consultative assistance to conduct a comprehensive indoor air quality study:

- When there is reason to believe that the building contains harmful concentrations of contaminants, yet the contaminants cannot be readily identified.
- When 80% or more of building occupants are dissatisfied with indoor air quality.

Outside expertise would be needed due to the extensive time and staffing commitment needed to interview building occupants, to conduct air monitoring, to examine the buildings mechanical system, and to prepare a final report with findings and recommendations. The department in which the complaint occurred must fund the study.

## References

1. *Ventilation for Acceptable Indoor Air Quality. ASHRAE 62-2001.* American Society of Heating, Refrigerating and Air-Conditioning Engineers. 2001.
2. *Building Air Quality: A Guide For Building Owners and Facility Managers.* U. S. EPA. 1991.
3. *OSHA Technical Manual. Section III. Chapter 2. Indoor Air Quality Investigation.* Occupational Safety and Health Administration.
4. *BGSU Mold Remediation Guidelines.* Bowling Green State University, Environmental Health and Safety. 2002.
5. *Thermal Environmental Conditions for Human Occupancy. ASHRAE 55-1992.* American Society of Heating, Refrigerating and Air-Conditioning Engineers. 1992.

Revised: 10/24/02