

Indoor Air Quality Program

Department for Environmental Health and Safety

Berea College

Purpose

The purpose of this program is to establish written policies and procedures to be used at Berea College in the management of indoor air quality.

Scope

The requirements of this written program apply to all campus indoor environments where employees work, student residence areas, and College rental property. This program also applies to contractors and their subcontractors who have been hired to work on campus.

Summary

Berea College is committed to providing a work environment that is free of recognized hazards and to investigating concerns that may be related to indoor air quality.

Indoor air quality may be affected by many factors including, but not limited to, buildings that are tightly sealed, the use of synthetic building materials and furnishings, the use of air purifiers and copy machines, and other ozone producing equipment, room air fresheners, and the use of various chemical products like cleaners and pesticides.

Most indoor air quality concerns from building occupants are related to respiratory irritation, headache, odors, or fatigue. These concerns may be associated with mold (fungal growth), elevated carbon dioxide levels, dust generated in the work environment, materials infiltrating from outside sources such as pollen and engine exhaust, elevated ozone levels from office equipment, and chemical vapors.

General factors that impact overall indoor air quality can be related to heating, ventilation, and air-conditioning (HVAC) systems, pollutants, and occupants. The following is a brief discussion of some of these factors:

Mold and Biological factors: Mild, mildew, dust mites, animal and insect parts are all agents that can adversely affect indoor air quality. Moisture related problems in buildings can result in the growth or amplification of biological or microbial organisms such as mold, mildew, dust mites and bacteria. Exposure can increase the risk of allergic reactions, trigger asthma, cause respiratory infections or have other health effects. Sources of moisture include structural leaks, plumbing leaks, flooding, and HVAC-related humidity control problems. For more detailed response procedures to address flooding and mold formation please see:

Berea College: ***Flood Response and Mold prevention Program***

Volatile Organic compounds: Volatile organic compounds (VOCs) are emitted from paints, solvents, building materials, air fresheners, dry-cleaned clothing, aerosol sprays, adhesives, fabrics, carpet, and other sources. VOCs can cause eye, nose, and throat irritation, headaches, loss of coordination, nausea,

and other more severe illness based on contaminant concentration and exposure time. VOCs can be found in both indoor and outdoor air.

Heating, Ventilating and Air Conditioning (HVAC) systems: HVAC systems should be designed to meet the needs of a specific building based on its design, use, and occupant activities. The HVAC system should filter the air, heat or cool as necessary and control humidity levels during the cooling season. Some systems are used to bring in additional air to dilute building contaminants. An HVAC system that is not maintained will allow water to build up in the unit creating conditions suitable for biological contaminants. Infrequent filter changes can result in decreased efficiency. Inadequate systems can allow high levels of moisture to form in a building that foster growth of mold and mildew. HVAC systems should be inspected on a regular basis to ensure that the systems are clean and functioning as designed.

Responsibilities and Notifications

Environmental Health and Safety (EHS): The Berea College Environmental Health and Safety Department investigates indoor air quality (IAQ) concerns of employees, students, contractors and other building occupants (leased property). The work or residential area and building will be evaluated for probable sources of contaminants, such as the presence of mold, chemical use and storage, general housekeeping, operation of the HVAC system, humidity and temperature control, recent renovations or new furnishings, and the presence of ozone producing equipment. An investigation will address health concerns, symptoms, and sensitivities related to indoor air quality. Indoor air quality investigations addressing possible flooding and mold contamination will also include a representative from Facilities. The EHS department may collect temperature and humidity data and if necessary conduct air sampling for specific contaminants. A formal report is prepared for all IAQ investigations and shared with concerned occupants. A corrective action plan, if needed, is included in the report and sent to the appropriate building contact, supervisor(s) or department head for implementation.

The Environmental Health Department conducts an annual safety tour of all campus buildings with the exception of residential rental property. A walk through on residential rental property is conducted before a tenant moves in and after they move out. The safety tour includes inspection for conditions that may impact indoor air quality.

Building Contact, Supervisors, and Department Heads: Individuals with supervisory responsibility should:

- Contact the EHS department if building occupants experience irritations or odors that may be related to indoor air quality.
- Share results of IAQ investigation reports with appropriate staff members.
- Assure that the recommended corrective actions are implemented.
- Be prepared for temporary relocation of personnel during mold or flood remediation activities and accommodations for employees experiencing IAQ-related symptoms if necessary or requested.

Facilities: The Berea College Facilities Department will consult with the Department of Environmental Health and Safety about problems concerning indoor air quality and also keep the EHS Department informed about any campus projects that could affect indoor air quality. The Facilities Department will also address the following:

- Design and construct buildings to prevent water intrusion in compliance with relevant building codes.
- Establish and maintain a preventative maintenance program that includes periodic inspections for HVAC systems to provide for the correct amount of fresh air, humidity, and temperature control to maintain comfort and air quality. Preventative maintenance inspections and filter changes on HVAC systems are conducted twice per year on campus buildings. Individuals or groups that rent Berea College property are responsible for their own filter changes.
- Establish and maintain a janitorial program to keep general building work spaces clean and dry. General work areas include community areas such as hallways, meeting areas, and restroom facilities.
- Provide water extraction services during water intrusion and flooding events
- Follow accepted guidelines for remediation of water damaged and flooding events as addressed in the College's *Flood Response and Mold Prevention Program*
- Notify building contacts in a timely manner of building construction/renovation/maintenance projects that may impact indoor air quality.
- Ensure the timely execution and completion of corrective action items identified in EHS indoor air quality (IAQ) investigation reports.

Building Occupants: Building occupants can prevent indoor air pollution by:

- Keep all HVAC supply and return grills open because obstructing these openings can compromise the ventilation system.
- Inform your supervisor or department head of any unusual odors or air quality concerns.
- Check with the EHS Department before you use air purifying units and other air cleaners. These units may add chemical pollutants such as ozone to the air.
- Avoid using candles, air fresheners or air freshener sprays in the work area.
- Keep the personal use of colognes and perfumes to a minimum. Some of these products can be irritating to some individuals
- Be aware that house plants can cause allergic reactions in some individuals
- Keep your work area clean and free of excess clutter. Empty trash cans on a regular basis. Berea College employees and students are responsible for housekeeping in their individual work areas, offices and residence areas.

Contact Information

Environmental Health and Safety (EHS) is located in the basement of the Hall Science building and can be reached on campus at ext. 3350 or ext. 3246 and off campus at 859-985-3350 or 3246

Facilities Management can be reached on campus at ext. 3827 or off campus at 859-985-3827

Public Safety can be reached in the event of an emergency on campus at ext. 3333 or off campus at 859-985-3333.

Reference Information:

US EPA: Mold Remediation in Schools and Commercial Buildings

US EPA: Fact Sheet: Ventilation and Air Quality in Offices

US EPA: “IAQ in large Buildings”

Berea College: Flood Response and Mold Prevention Program