



## **SECTION 14–INDOOR AIR QUALITY** **(IAQ)**

- 14.1 IAQ Concerns
- 14.2 IAQ Log
- 14.3 Moisture and Mold Remediation

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## 14.1 INDOOR AIR QUALITY CONCERNS

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### A. Objective

To maintain a healthy and comfortable indoor environment.

### B. Scope

The scope of this program is extended to the entire campus community. Employees should report Indoor Air Quality (IAQ) deficiencies and complaints to their supervisor, who should report the matter to Facilities Management (x6350) for corrective measures.

### C. References

Illinois Indoor Air Quality Act 410 ILCS 87, Illinois Clean Indoor Air Act 410 ILCS 80, ASHRAE (American Society of Heating, Refrigerating and Air Conditioning Engineers) Standard 55-1992 and ASHRAE Standard 62-1999.

### D. IAQ Program

The most common origins of IAQ problems arise from many sources inside and outside the buildings. Airborne chemicals, bacteria, fungi, pollen, dust, and vehicle exhaust can all contribute to the problem, as well as other factors such as temperature, humidity, lighting, noise, personal and work-related stress, and pre-existing health conditions. These factors, a combination of factors, and/or short-term unidentified events combine to make identification of a source difficult and sometimes impossible.

A typical investigation of an IAQ complaint should start with a call to Facilities Management (x6350). Maintenance or Utilities can investigate and remedy straightforward issues such as temperature, malfunctioning fans, odors from dry floor drains, and transient odors from maintenance activities. If the problem is caused by a more complex situation, such as inadequate ventilation or excessive moisture, then the problem may require a more detailed investigation. The Office of Environmental Health & Safety can conduct this investigation. Sometimes the remedy involves an extensive project and may be delayed by the need for non-routine sources of funding.

Some actions building occupants can take to help maintain good IAQ are as follows:

- Report poor indoor environmental conditions (e.g., stuffy air, heat or cooling problems, annoying odors, etc.) to Facilities Management at ext. 6350.
- Report water intrusion into buildings as soon as possible to Facilities Management at ext. 6350. The longer building materials remain damp the more likely the potential for excessive microbial growth.
- Limit the use of products that produce odors or volatile solvents to specifically designed rooms, preferably with local exhaust ventilation. This also applies to equipment that generates excessive heat or produces odors.
- Minimize generation of dust or aerosols in the work area.
- Maintain good housekeeping in work areas and break areas. Throw away garbage and old food and clean up spills promptly.
- Do not bring in ozone producing devices on campus. Often vendors of ozone producing devices make statements that lead the public to believe that these devices are always safe and effective in controlling indoor air pollution. These devices have **not** been proven safe in occupied spaces. When inhaled, high concentrations of ozone can damage the lungs and lead to health problems such as throat irritation, coughing, chest pain, and shortness of breath. (This does not



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include aqueous ozone, which is a water-based solution for cleaning that the custodial department uses.)

- Harper College is a smoke free campus; smoking is not allowed on campus property.

If you feel you are experiencing health effects from an Indoor Air Quality concern, report these to your supervisor. If symptoms persist proceed to NCH (Northwest Community Healthcare) in Building M, for a health evaluation. It is recommended that employees experiencing repeated discomfort keep a log of when the discomforts occur. The log should include the following: date, time of day, discomfort, length of time of discomfort, any unusual odors experienced and outside conditions at the time. (*See Section 14.2- Indoor Air Quality Log of the EH&S (Environmental Health & Safety) Manual*). Recording events in a daily log might point to activities taking place inside or outside the building.





## 14.3 MOISTURE AND MOLD REMEDIATION

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### A. Objective

This procedure outlines methods to prevent mold growth in buildings that have been affected by water infiltration. The goal is to reduce or eliminate excess moisture in less than 48 hours to prevent mold growth.

### B. Scope

The scope of this program is extended to the entire campus community. Employees should report moisture or water problems to their supervisor, who should report the matter immediately to Facilities Management (x6350) for corrective measures.

### C. References

Currently there are no federal standards (OSHA (Occupational Safety and Health Administration), EPA, or NIOSH (National Institute for Occupational Safety and Health)) for airborne concentrations of moisture or mold, however there are guidelines. These procedures are compiled from the National Institutes of Health procedures and the Environmental Protection Agency (EPA) guidelines.

### D. Procedure (for Facilities Management)

1. Identify the source of the water infiltration or moisture and shut off or isolate the source.
2. Determine if the source of the water is clean or dirty. Clean water is potable, domestic water, de-ionized or distilled water. Dirty water, or non-potable water, contains chemicals or pollution such as sewage.
3. Determine the scope of the moisture damage. The Facilities Mgmt. Supervisor will determine if there are adequate personnel and resources to conduct the cleanup, or if an outside remediation company should be contacted. The outside remediation company shall also be contacted for remediation of dirty water beyond Harper College's abilities.
4. Conduct a general inventory of damaged area(s), room number(s), type of room(s), and general equipment in the room.
5. The following are general guidelines for specific clean water damaged building materials:
  - **Ceiling Tiles:** Discard and replace.
  - **Carpet (rolled wall to wall/ broadloom):** Remove all furniture and cabinets sitting on wet carpet. Remove water with extraction vacuum and put out air movers (floor drying fans).
    - Be aware that some buildings have asbestos tile under carpeting so always check with Environmental Health & Safety before pulling up rolled carpet.
  - **Carpet (squares or tiles):** Remove all furniture. The water-based glue that is used for carpet squares will usually dissolve and prevent the carpet from adhering to the floor and will need to be removed. Fans shall be placed around the affected area to dry the concrete floor. The carpet squares can be replaced once the concrete is dry.
  - **Non-Carpeted Flooring (vinyl, ceramic or linoleum tile or concrete):** Vacuum or damp wipe with water and mild detergent, put out air movers and allow to dry.
  - **Baseboard/Cove Base:** Remove all baseboards on walls or built-in cabinets that came in contact with water. Try to pull down when removing baseboard to prevent further wall damage. Removed baseboard can be thrown away.



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- o **Books and Papers:** All items that cannot be dried shall be put aside for inventory and review by the owner. Only the owner shall discard these items. It is recommended that non-valuable materials should be discarded. Digital photos shall be taken of important documents and the originals should be discarded. For items with high monetary or sentimental value the contracted restoration company will be consulted.
  - a. **Upholstered Furniture:** Remove water with an extraction vacuum and direct fans to the furniture.
  - b. **HVAC System:** If the water damage occurs in the summer and the HVAC is in cooling mode, lowering the indoor temperature will aid in removing moisture from the air. The Utilities division shall be contacted to see if the air temperature can be lowered. In winter months when the HVAC is in heating mode, humidity levels are usually already low and additional moisture can only be removed by a dehumidifier.
6. The following is a list of equipment that may be used:
- a. **Air movers (or floor drying fans):** Air movers are designed at a low center of gravity to force air along floors and wall surfaces.
  - b. **Extraction Vacuums:** Extraction vacuums remove water from the floor or furniture and collect the water. They shall not be used on drywall.
  - c. **Dehumidifiers:** Dehumidifiers are devices to remove water vapor from the air. They can lower humidity levels in affected areas to aid in drying.
7. The remediation contractor shall be contacted if any of the following:
- a. There are not adequate personnel available for cleanup.
  - b. If the water source is dirty (sewage or chemical contaminated).
  - c. If the cleanup did not begin within 48 hours of the water infiltration and the infiltration damaged a large area.
  - d. There is visible mold growth on drywall that is larger than a 10 square foot area.
8. Report all water damage to Environmental Health & Safety (EH&S) immediately. EH&S can help evaluate the problem and if the damage warrants an insurance claim. EH&S can also help measure relative humidity levels and has a moisture meter to help measure drywall moisture levels. EH&S will also oversee any mold remediation done by the contracted remediation company or other contractor. EH&S can also assist with issues of asbestos or other chemicals.